
Uncertainty On The Act And Effect Of Cancer Alongside The Foggy Positions Of Cells Toward Neutrosophic Failed SuperHyperClique inside Neutrosophic SuperHyperGraphs Titled Cancer's Recognition

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Article

Uncertainty On The Act And Effect Of Cancer Alongside The Foggy Positions Of Cells Toward Neutrosophic Failed SuperHyperClique inside Neutrosophic SuperHyperGraphs Titled Cancer's Recognition

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Abstract: In this research, assume a SuperHyperGraph. Then a "Failed SuperHyperClique" $\mathcal{C}(NSHG)$ for a neutrosophic SuperHyperGraph $NSHG : (V, E)$ is the maximum cardinality of a SuperHyperSet S of SuperHyperVertices such that there's a SuperHyperVertex to have a SuperHyperEdge in common. Assume a SuperHyperGraph. Then an " δ -Failed SuperHyperClique" is a maximal Failed SuperHyperClique of SuperHyperVertices with maximum cardinality such that either of the following expressions hold for the (neutrosophic) cardinalities of SuperHyperNeighbors of $s \in S$: $|S \cap N(s)| > |S \cap (V \setminus N(s))| + \delta$, $|S \cap N(s)| < |S \cap (V \setminus N(s))| + \delta$. The first Expression, holds if S is an " δ -SuperHyperOffensive". And the second Expression, holds if S is an " δ -SuperHyperDefensive"; a "neutrosophic δ -Failed SuperHyperClique" is a maximal neutrosophic Failed SuperHyperClique of SuperHyperVertices with maximum neutrosophic cardinality such that either of the following expressions hold for the neutrosophic cardinalities of SuperHyperNeighbors of $s \in S$: $|S \cap N(s)|_{neutrosophic} > |S \cap (V \setminus N(s))|_{neutrosophic} + \delta$, $|S \cap N(s)|_{neutrosophic} < |S \cap (V \setminus N(s))|_{neutrosophic} + \delta$. The first Expression, holds if S is a "neutrosophic δ -SuperHyperOffensive". And the second Expression, holds if S is a "neutrosophic δ -SuperHyperDefensive". A basic familiarity with Neutrosophic Failed SuperHyperClique theory, SuperHyperGraphs theory, and Neutrosophic SuperHyperGraphs theory are proposed.

Keywords: neutrosophic SuperHyperGraph; Neutrosophic Failed SuperHyperClique; Cancer's Neutrosophic Recognition

AMS Subject Classification: 05C17, 05C22, 05E45

1. Background

Fuzzy set in Ref. [56] by Zadeh (1965), intuitionistic fuzzy sets in Ref. [43] by Atanassov (1986), a first step to a theory of the intuitionistic fuzzy graphs in Ref. [53] by Shannon and Atanassov (1994), a unifying field in logics neutrosophy: neutrosophic probability, set and logic, reboth in Ref. [54] by Smarandache (1998), single-valued neutrosophic sets in Ref. [55] by Wang et al. (2010), single-valued neutrosophic graphs in Ref. [47] by Broumi et al. (2016), operations on single-valued neutrosophic graphs in Ref. [39] by Akram and Shahzadi (2017), neutrosophic soft graphs in Ref. [52] by Shah and Hussain (2016), bounds on the average and minimum attendance in preference-based activity scheduling in Ref. [41] by Aronshtam and Ilani (2022), investigating the recoverable robust single machine scheduling problem under interval uncertainty in Ref. [46] by Bold and Goerigk (2022), polyhedra associated with locating-dominating, open locating-dominating and locating total-dominating sets in graphs in Ref. [40] by G. Argiroffo et al. (2022), a Vizing-type result for semi-total domination in Ref. [42] by J. Asplund et al. (2020), total domination cover rubbing in Ref. [44] by R.A. Beeler et al. (2020), on the global total k -domination number of graphs in Ref. [45] by S. Bermudo et al. (2019), maker-breaker total domination game in Ref. [48] by V. Gledel et al. (2020), a new upper bound on the total domination number in graphs with minimum degree six

in Ref. [49] by M.A. Henning, and A. Yeo (2021), effect of predomination and vertex removal on the game total domination number of a graph in Ref. [50] by V. Irsic (2019), hardness results of global total k -domination problem in graphs in Ref. [51] by B.S. Panda, and P. Goyal (2021), are studied. Look at [34–38] for further researches on this topic. See the seminal researches [1–3]. The formalization of the notions on the framework of Extreme Failed SuperHyperClique theory, Neutrosophic Failed SuperHyperClique theory, and (Neutrosophic) SuperHyperGraphs theory at [4–31]. Two popular research books in Scribd in the terms of high readers, 2638 and 3363 respectively, on neutrosophic science is on [32,33].

Definition 1. ((neutrosophic) Failed SuperHyperClique).

Assume a SuperHyperGraph. Then

- (i) an **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ is a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's an amount of neutrosophic SuperHyperEdges amid an amount of neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also called a neutrosophic $(z, -)$ -Failed SuperHyperClique **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ if it's a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's z neutrosophic SuperHyperEdge amid an amount of neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also called a neutrosophic $(-, x)$ -Failed SuperHyperClique **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ if it's a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's an amount of neutrosophic SuperHyperEdges amid x neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also called a neutrosophic (z, x) -Failed SuperHyperClique **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ if it's a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's z neutrosophic SuperHyperEdges amid x neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also the neutrosophic extension of the neutrosophic notion of the neutrosophic clique in the neutrosophic graphs to the neutrosophic SuperHyperNotion of the neutrosophic Failed SuperHyperClique in the neutrosophic SuperHyperGraphs where in the neutrosophic setting of the graphs, there's a neutrosophic $(1, 2)$ -Failed SuperHyperClique since a neutrosophic graph is a neutrosophic SuperHyperGraph;
- (ii) an **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ is a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's an amount of neutrosophic SuperHyperEdges amid an amount of neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also called a neutrosophic $(z, -)$ -Failed SuperHyperClique **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ if it's a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's

z neutrosophic SuperHyperEdge amid an amount of neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also called a neutrosophic $(-, x)$ -Failed SuperHyperClique **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ if it's a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's an amount of neutrosophic SuperHyperEdges amid x neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also called a neutrosophic (z, x) -Failed SuperHyperClique **neutrosophic Failed SuperHyperClique** $\mathcal{C}(NSHG)$ for an neutrosophic SuperHyperGraph $NSHG : (V, E)$ if it's a neutrosophic type-SuperHyperSet of the neutrosophic SuperHyperVertices with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's z neutrosophic SuperHyperEdges amid x neutrosophic SuperHyperVertices given by that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices; it's also the neutrosophic extension of the neutrosophic notion of the neutrosophic clique in the neutrosophic graphs to the neutrosophic SuperHyperNotion of the neutrosophic Failed SuperHyperClique in the neutrosophic SuperHyperGraphs where in the neutrosophic setting of the graphs, there's a neutrosophic $(1, 2)$ -Failed SuperHyperClique since a neutrosophic graph is a neutrosophic SuperHyperGraph;

Proposition 2. *a neutrosophic clique in a neutrosophic graph is a neutrosophic $(1, 2)$ -Failed SuperHyperClique in that neutrosophic SuperHyperGraph. And reverse of that statement doesn't hold.*

Proposition 3. *A neutrosophic clique in a neutrosophic graph is a neutrosophic $(1, 2)$ -Failed SuperHyperClique in that neutrosophic SuperHyperGraph. And reverse of that statement doesn't hold.*

Proposition 4. *Assume a neutrosophic (x, z) -Failed SuperHyperClique in a neutrosophic SuperHyperGraph. For all $z_i \leq z, x_i \leq x$, it's a neutrosophic (x_i, z_i) -Failed SuperHyperClique in that neutrosophic SuperHyperGraph.*

Proposition 5. *Assume a neutrosophic (x, z) -Failed SuperHyperClique in a neutrosophic SuperHyperGraph. For all $z_i \leq z, x_i \leq x$, it's a neutrosophic (x_i, z_i) -Failed SuperHyperClique in that neutrosophic SuperHyperGraph.*

Definition 6. $((\text{neutrosophic})\delta)$ -Failed SuperHyperClique).

Assume a SuperHyperGraph. Then

- (i) an δ -**Failed SuperHyperClique** is a maximal of SuperHyperVertices with a maximum cardinality such that either of the following expressions hold for the (neutrosophic) cardinalities of SuperHyperNeighbors of $s \in S$:

$$|S \cap N(s)| > |S \cap (V \setminus N(s))| + \delta; \quad (1.1)$$

$$|S \cap N(s)| < |S \cap (V \setminus N(s))| + \delta. \quad (1.2)$$

The Expression (1.1), holds if S is an δ -**SuperHyperOffensive**. And the Expression (1.2), holds if S is an δ -**SuperHyperDefensive**;

- (ii) a **neutrosophic δ -Failed SuperHyperClique** is a maximal neutrosophic of SuperHyperVertices with maximum neutrosophic cardinality such that either of the following expressions hold for the neutrosophic cardinalities of SuperHyperNeighbors of $s \in S$:

$$|S \cap N(s)|_{\text{neutrosophic}} > |S \cap (V \setminus N(s))|_{\text{neutrosophic}} + \delta; \quad (1.3)$$

$$|S \cap N(s)|_{\text{neutrosophic}} < |S \cap (V \setminus N(s))|_{\text{neutrosophic}} + \delta. \quad (1.4)$$

The Expression (1.3), holds if S is a **neutrosophic δ -SuperHyperOffensive**. And the Expression (1.4), holds if S is a **neutrosophic δ -SuperHyperDefensive**.

2. neutrosophic Failed SuperHyperClique

The SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. S The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, S is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, S is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $S \setminus \{z\}$. There's not only three neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, S doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, S **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, S is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, S Thus the non-obvious neutrosophic Failed SuperHyperClique, S is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: S is the neutrosophic SuperHyperSet, not: S does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only S in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are S . In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ as Linearly-over-packed SuperHyperModel is featured On the Figures.

Example 7. Assume the SuperHyperGraphs in the Figures (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), and (20).

- On the Figure (1), the neutrosophic SuperHyperNotion, namely, neutrosophic Failed SuperHyperClique, is up. E_1 and E_3 are some empty neutrosophic SuperHyperEdges but E_2 is a loop neutrosophic SuperHyperEdge and E_4 is a neutrosophic SuperHyperEdge. Thus in the terms of neutrosophic SuperHyperNeighbor, there's only one neutrosophic SuperHyperEdge, namely, E_4 . The neutrosophic SuperHyperVertex, V_3 is neutrosophic isolated means that there's no neutrosophic SuperHyperEdge has it as a neutrosophic endpoint. Thus the neutrosophic SuperHyperVertex, V_3 , is contained in every given neutrosophic Failed SuperHyperClique. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $V = \{V_1, V_2, V_3, V_4\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by neutrosophic SuperHyperClique is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_4\}$. There's not only three neutrosophic SuperHyperVertex inside the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet includes only three neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, doesn't have less than four SuperHyperVertices inside the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique is up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique and it's a neutrosophic Failed SuperHyperClique. Since it's the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices inside the intended neutrosophic SuperHyperSet, $V = \{V_1, V_2, V_3, V_4\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $V = \{V_1, V_2, V_3, V_4\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $V = \{V_1, V_2, V_3, V_4\}$, is the neutrosophic SuperHyperSet, not: $V = \{V_1, V_2, V_3, V_4\}$, does includes only less than

four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$V = \{V_1, V_2, V_3, V_4\}.$$

- On the Figure (2), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. E_1 and E_3 Failed SuperHyperClique are some empty SuperHyperEdges but E_2 is a loop SuperHyperEdge and E_4 is a SuperHyperEdge. Thus in the terms of SuperHyperNeighbor, there's only one SuperHyperEdge, namely, E_4 . The SuperHyperVertex, V_3 is isolated means that there's no SuperHyperEdge has it as an endpoint. Thus the neutrosophic SuperHyperVertex, V_3 , **is** contained in every given neutrosophic Failed SuperHyperClique. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $V = \{V_1, V_2, V_3, V_4\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_4\}$. There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3, V_4\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $V = \{V_1, V_2, V_3, V_4\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $V = \{V_1, V_2, V_3, V_4\}$, is up. The obvious simple neutrosophic

type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $V = \{V_1, V_2, V_3, V_4\}$, is the neutrosophic SuperHyperSet, not: $V = \{V_1, V_2, V_3, V_4\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

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is only and only

$$V = \{V_1, V_2, V_3, V_4\}.$$

- On the Figure (3), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. E_1, E_2 and E_3 are some empty SuperHyperEdges but E_4 is a SuperHyperEdge. Thus in the terms of SuperHyperNeighbor, there's only one SuperHyperEdge, namely, E_4 . The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4\}$. There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{\}$, is the neutrosophic SuperHyperSet, not: $\{\}$, does includes only less than four SuperHyperVertices in a connected

neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

{ }.

- On the Figure (4), the SuperHyperNotion, namely, a Failed SuperHyperClique, is up. There's no empty SuperHyperEdge but E_3 are a loop SuperHyperEdge on $\{F\}$, and there are some SuperHyperEdges, namely, E_1 on $\{H, V_1, V_3\}$, alongside E_2 on $\{O, H, V_4, V_3\}$ and E_4, E_5 on $\{N, V_1, V_2, V_3, F\}$. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_1, V_2, V_3, N, F, V_4\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, N, F, V_4\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, N, F, V_4\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, N, F\}$. There's not only three neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only three neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, N, F, V_4\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, N, F, V_4\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, N, F, V_4\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_1, V_2, V_3, N, F, V_4\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_1, V_2, V_3, N, F, V_4\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_1, V_2, V_3, N, F, V_4\}$, is the neutrosophic SuperHyperSet, not: $\{V_1, V_2, V_3, N, F, V_4\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's

interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$\{V_1, V_2, V_3, N, F, V_4\}.$$

- On the Figure (5), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4, V_5\}$. There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, is the neutrosophic SuperHyperSet, not: $\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$\{V_1, V_2, V_3, V_4, V_5, V_{13}\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ is mentioned as the SuperHyperModel $ESHG : (V, E)$ in the Figure (5).

- On the Figure (6), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_5, V_6, V_{15}\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_5, V_6\}$. There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since **it's the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_5, V_6, V_{15}\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_5, V_6, V_{15}\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_5, V_6, V_{15}\}$, is the neutrosophic SuperHyperSet, not: $\{V_5, V_6, V_{15}\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $\{V_5, V_6, V_{15}\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with an illustrated SuperHyperModeling of the Figure (6). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious[non-obvious] simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $\{V_5, V_6, V_{15}\}$.

- On the Figure (7), the SuperHyperNotion, namely, neutrosophic Failed SuperHyperClique $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$ is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}\}$. There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is the neutrosophic SuperHyperSet, not: $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's

interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ of depicted SuperHyperModel as the Figure (7). But

$$\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$$

are the only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices.

- On the Figure (8), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}\}$. There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique.

There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is the neutrosophic SuperHyperSet, not: $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ of depicted SuperHyperModel as the Figure (8). But

$$\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$$

are the only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ of dense SuperHyperModel as the Figure (8).

- On the Figure (9), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_5, V_6, V_{15}\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_5, V_6\}$. There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_5, V_6, V_{15}\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for

some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since **it's the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_5, V_6, V_{15}\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_5, V_6, V_{15}\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_5, V_6, V_{15}\}$, is the neutrosophic SuperHyperSet, not: $\{V_5, V_6, V_{15}\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $\{V_5, V_6, V_{15}\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (9). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $\{V_5, V_6, V_{15}\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ of highly-embedding-connected SuperHyperModel as the Figure (9).

- On the Figure (10), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}\}$. There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of

the neutrosophic SuperHyperVertices, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, is the neutrosophic SuperHyperSet, not: $\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ of depicted SuperHyperModel as the Figure (10). But

$$\{V_8, V_9, V_{10}, V_{11}, V_{14}, V_6\}$$

are the only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ of dense SuperHyperModel as the Figure (10).

- On the Figure (11), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_1, V_4, V_5, V_6\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_4, V_5, V_6\}$. There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the

neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_1, V_4, V_5, V_6\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_1, V_4, V_5, V_6\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_1, V_4, V_5, V_6\}$, is the neutrosophic SuperHyperSet, not: $\{V_1, V_4, V_5, V_6\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $\{V_1, V_4, V_5, V_6\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (11). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $\{V_1, V_4, V_5, V_6\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

- On the Figure (12), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_1, V_2, V_3, V_7, V_8, V_9\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_7, V_8\}$. There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique

is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, is the neutrosophic SuperHyperSet, not: $\{V_1, V_2, V_3, V_7, V_8, V_9\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $\{V_1, V_2, V_3, V_7, V_8, V_9\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (11). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $\{V_1, V_2, V_3, V_7, V_8, V_9\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

- On the Figure (13), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $\{V_1, V_4, V_5, V_6\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_4, V_5, V_6\}$. There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet.

Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $\{V_1, V_4, V_5, V_6\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $\{V_1, V_4, V_5, V_6\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $\{V_1, V_4, V_5, V_6\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $\{V_1, V_4, V_5, V_6\}$, is the neutrosophic SuperHyperSet, not: $\{V_1, V_4, V_5, V_6\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $\{V_1, V_4, V_5, V_6\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (11). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $\{V_1, V_4, V_5, V_6\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

- On the Figure (14), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $V = \{V_1, V_2, V_3\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2\}$. There's **not**

only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $V = \{V_1, V_2, V_3\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $V = \{V_1, V_2, V_3\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $V = \{V_1, V_2, V_3\}$, is the neutrosophic SuperHyperSet, not: $V = \{V_1, V_2, V_3\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $V = \{V_1, V_2, V_3\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (14). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $V = \{V_1, V_2, V_3\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's noted that this neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic graph $G : (V, E)$ thus the notions in both settings are coincided.

- On the Figure (15), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $V = \{V_1, V_2, V_3\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet

with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2\}$. There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $V = \{V_1, V_2, V_3\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $V = \{V_1, V_2, V_3\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $V = \{V_1, V_2, V_3\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $V = \{V_1, V_2, V_3\}$, is the neutrosophic SuperHyperSet, not: $V = \{V_1, V_2, V_3\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

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amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $V = \{V_1, V_2, V_3\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (15). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $V = \{V_1, V_2, V_3\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's noted that this neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic graph $G : (V, E)$ thus the notions in both settings are coincided. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ as Linearly-Connected SuperHyperModel On the Figure (15).

- On the Figure (16), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$E_4 \cup \{V_{21}\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{21}\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $E_4 \cup \{V_{21}\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, E_4 . There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{21}\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{21}\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $E_4 \cup \{V_{21}\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $E_4 \cup \{V_{21}\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $E_4 \cup \{V_{21}\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $E_4 \cup \{V_{21}\}$, is the neutrosophic SuperHyperSet, not: $E_4 \cup \{V_{21}\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $E_4 \cup \{V_{21}\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (16). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $E_4 \cup \{V_{21}\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

- On the Figure (17), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple

neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. $E_4 \cup \{V_{25}\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, E_4 . There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $E_4 \cup \{V_{25}\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $E_4 \cup \{V_{25}\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $E_4 \cup \{V_{25}\}$, is the neutrosophic SuperHyperSet, not: $E_4 \cup \{V_{25}\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $E_4 \cup \{V_{25}\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (16). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $E_4 \cup \{V_{25}\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ as Linearly-over-packed SuperHyperModel is featured On the Figure (17).

- On the Figure (18), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following

neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, $E_4 \cup \{V_{25}\}$. The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, E_4 . There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, **is** the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, $E_4 \cup \{V_{25}\}$, is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since **it's the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet, $E_4 \cup \{V_{25}\}$. Thus the non-obvious neutrosophic Failed SuperHyperClique, $E_4 \cup \{V_{25}\}$, is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not: $E_4 \cup \{V_{25}\}$, is the neutrosophic SuperHyperSet, not: $E_4 \cup \{V_{25}\}$, does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only $E_4 \cup \{V_{25}\}$ in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (16). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are $E_4 \cup \{V_{25}\}$. In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

- On the Figure (19), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. There's neither empty SuperHyperEdge nor loop SuperHyperEdge. The following

neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, E_8 . There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

is the neutrosophic SuperHyperSet, not:

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\},$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (16). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$E_8 \cup \{O_7, L_7, P_7, K_7, J_7, H_7, U_7\}.$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

- On the Figure (20), the SuperHyperNotion, namely, Failed SuperHyperClique, is up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the

neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices, E_6 . There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

is the neutrosophic SuperHyperSet, not:

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

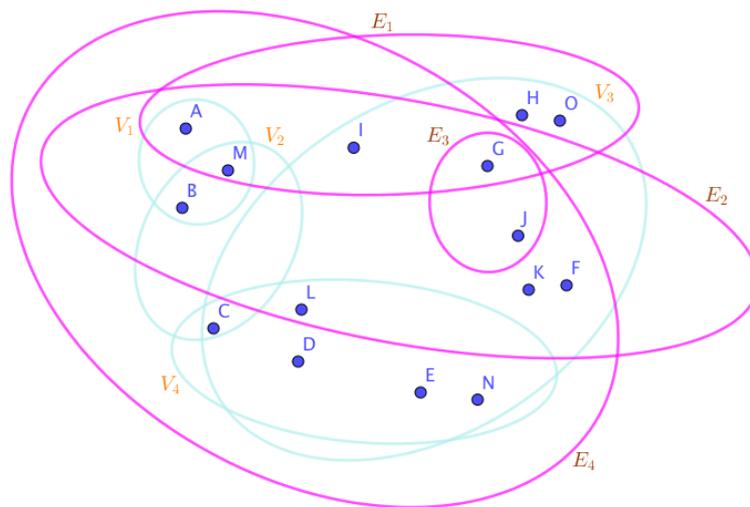


Figure 1. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

is only and only

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\},$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling of the Figure (16). It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$E_6 \cup \{W_6, Z_6, C_7, D_7, P_6, H_7, E_7, W_7\}.$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

Proposition 8. Assume a connected loopless neutrosophic SuperHyperGraph $ESHG : (V, E)$. Then in the worst case, literally,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a Failed SuperHyperClique. In other words, the least cardinality, the lower sharp bound for the cardinality, of a Failed SuperHyperClique is the cardinality of $V \setminus V \setminus \{x, z\}$.

Proof. Assume a connected loopless neutrosophic SuperHyperGraph $ESHG : (V, E)$. The SuperHyperSet of the SuperHyperVertices $V \setminus V \setminus \{z\}$ isn't a Failed SuperHyperClique since neither amount of neutrosophic SuperHyperEdges nor amount of SuperHyperVertices where amount refers to the neutrosophic number of SuperHyperVertices(-/SuperHyperEdges) more than one. Let us consider the neutrosophic SuperHyperSet $V \setminus V \setminus \{x, y, z\}$. This neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices has the eligibilities to propose some amount of neutrosophic SuperHyperEdges for some amount of the neutrosophic SuperHyperVertices taken from the mentioned neutrosophic SuperHyperSet and it has the maximum neutrosophic cardinality amid those neutrosophic type-SuperHyperSets but the minimum case of the maximum neutrosophic cardinality indicates that these neutrosophic type-SuperHyperSets couldn't give us the neutrosophic lower bound in the term of neutrosophic sharpness. In other words, the neutrosophic SuperHyperSet $V \setminus V \setminus \{x, y, z\}$

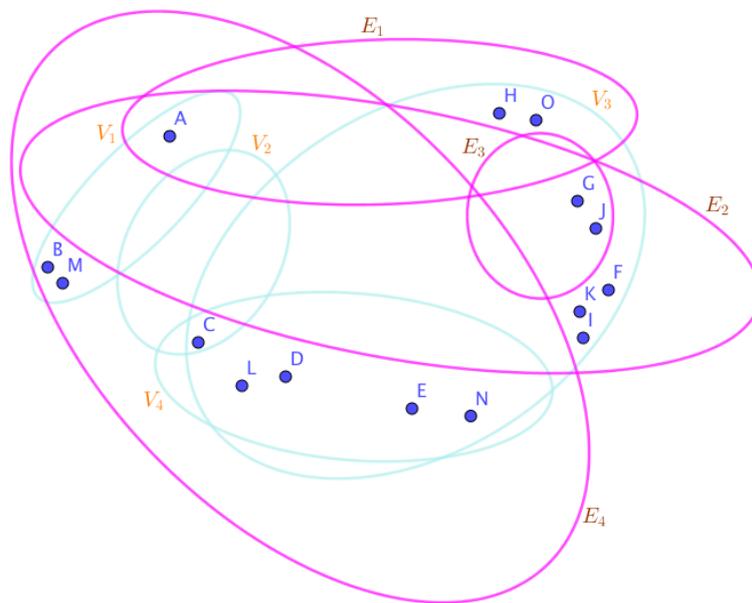


Figure 2. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

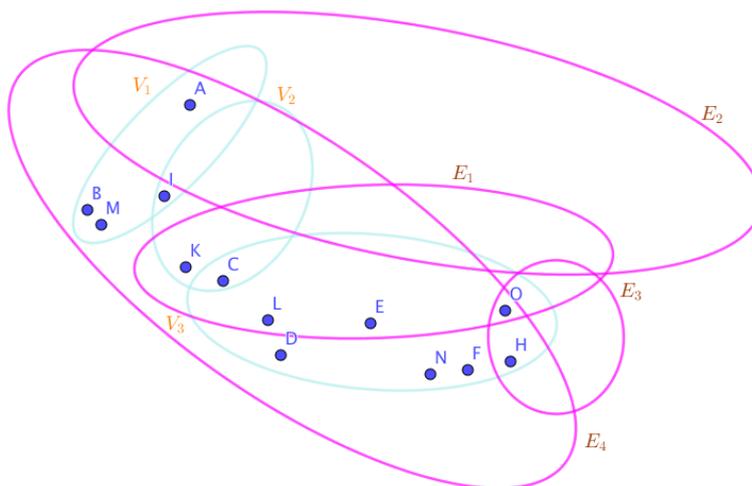


Figure 3. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

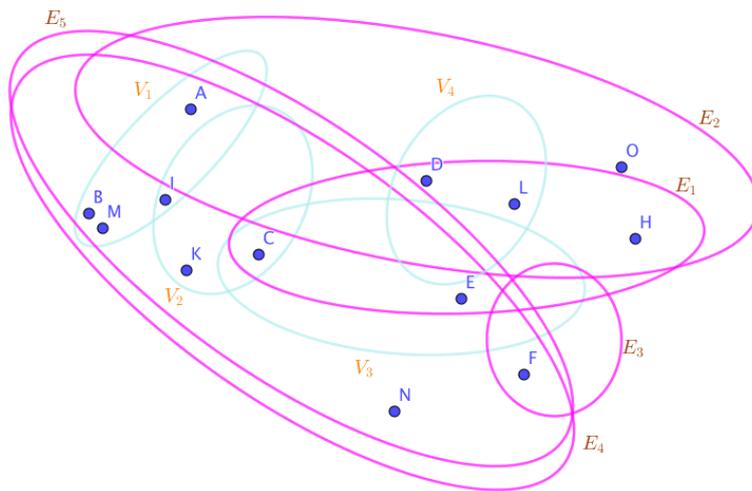


Figure 4. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

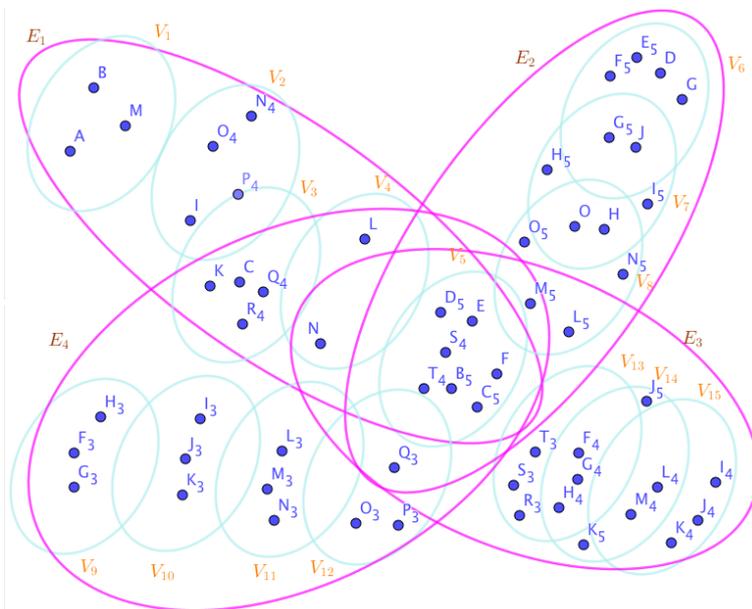


Figure 5. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

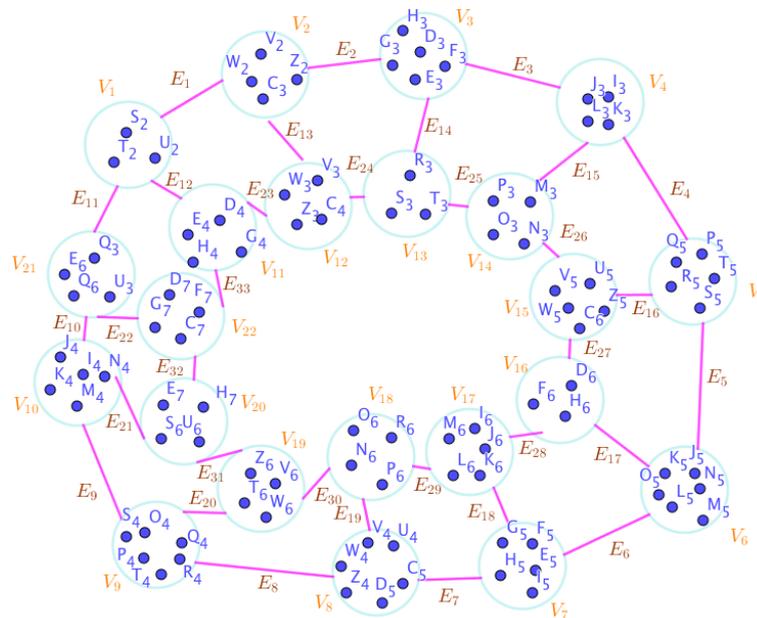


Figure 6. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

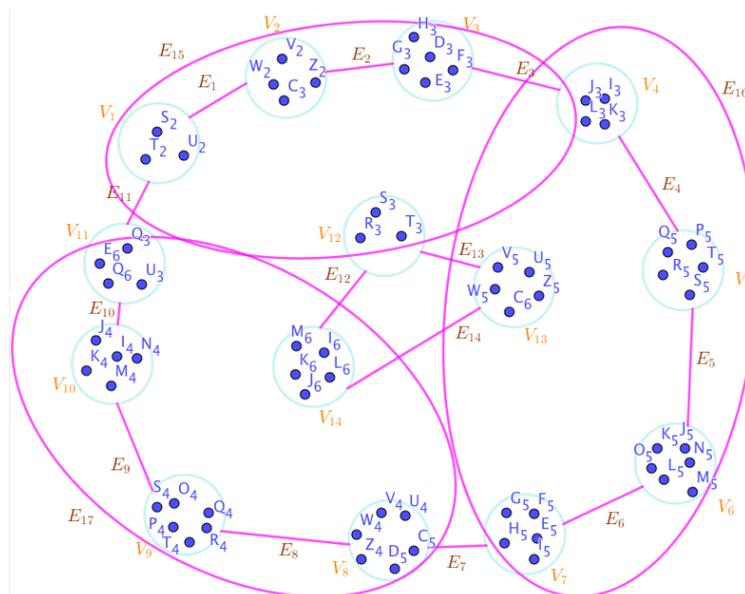


Figure 7. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

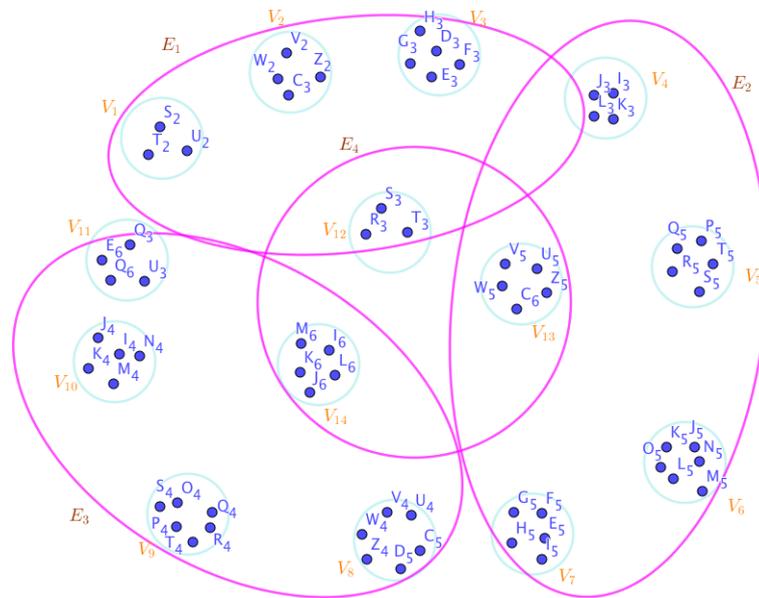


Figure 8. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

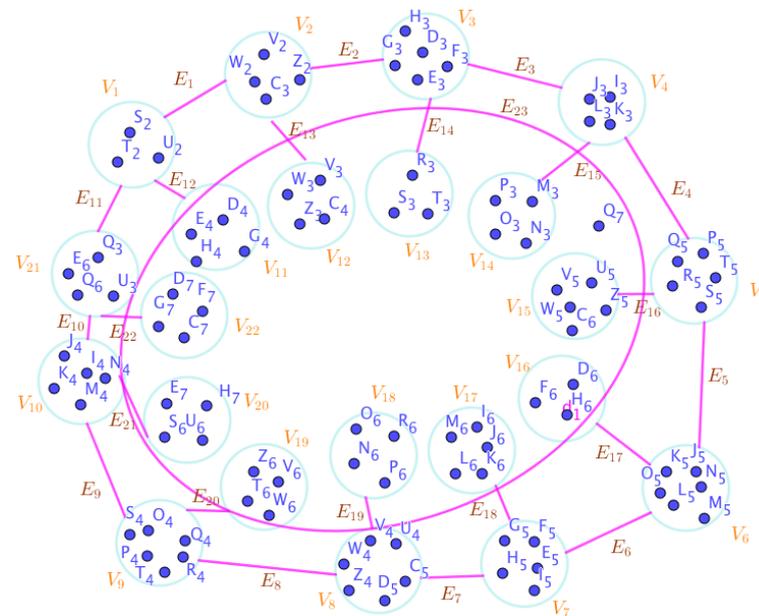


Figure 9. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

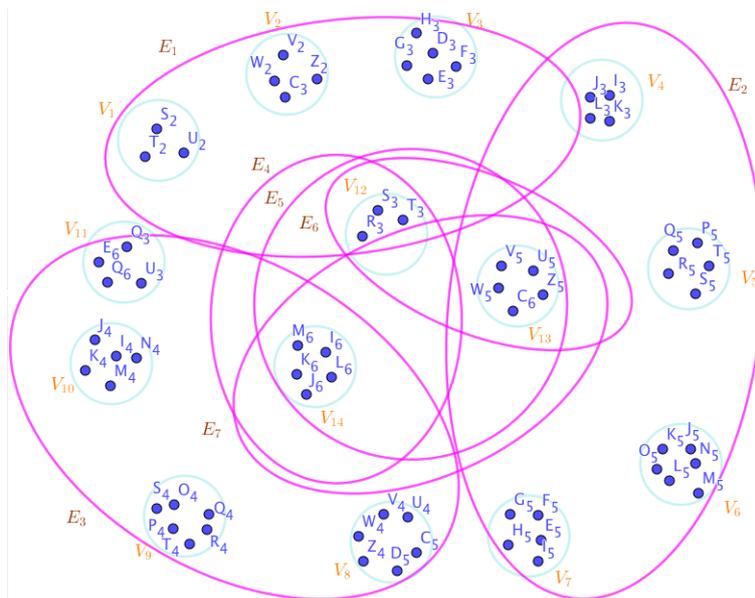


Figure 10. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

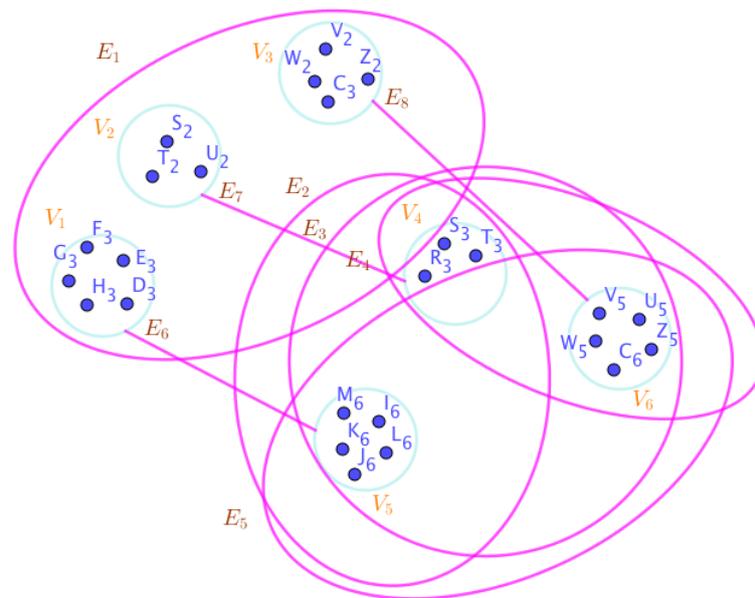


Figure 11. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

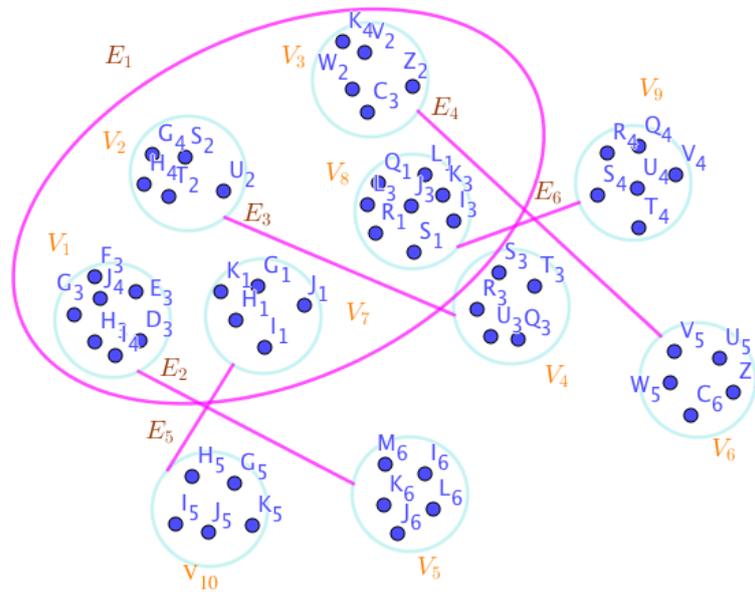


Figure 12. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

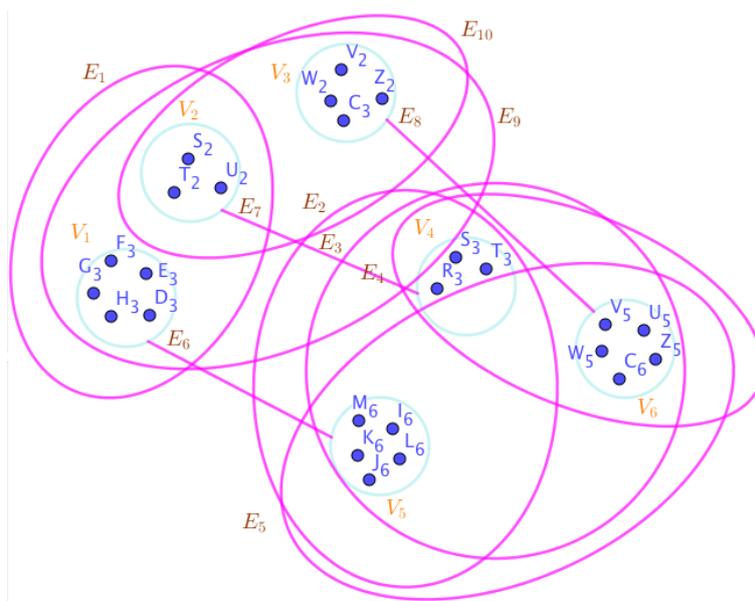


Figure 13. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

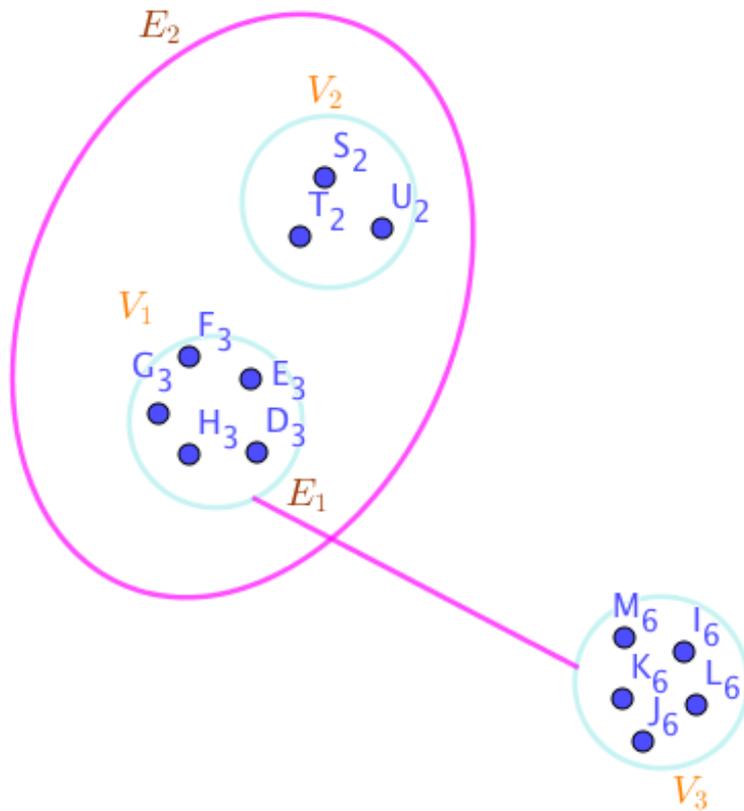


Figure 14. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

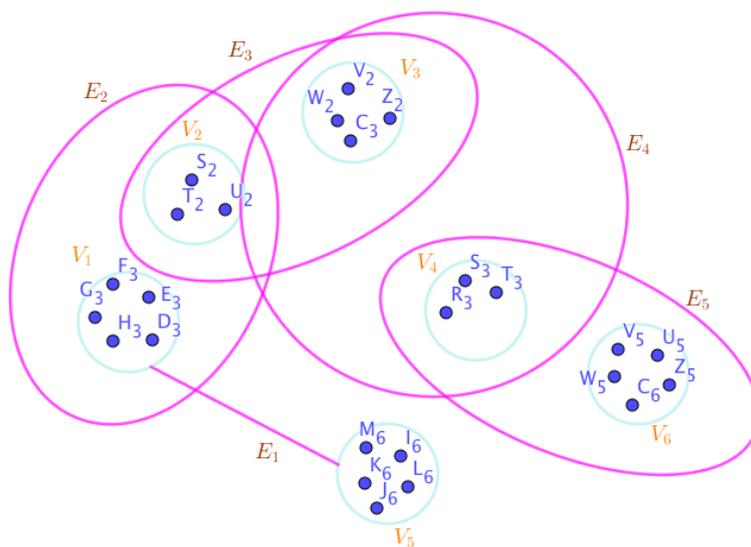


Figure 15. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

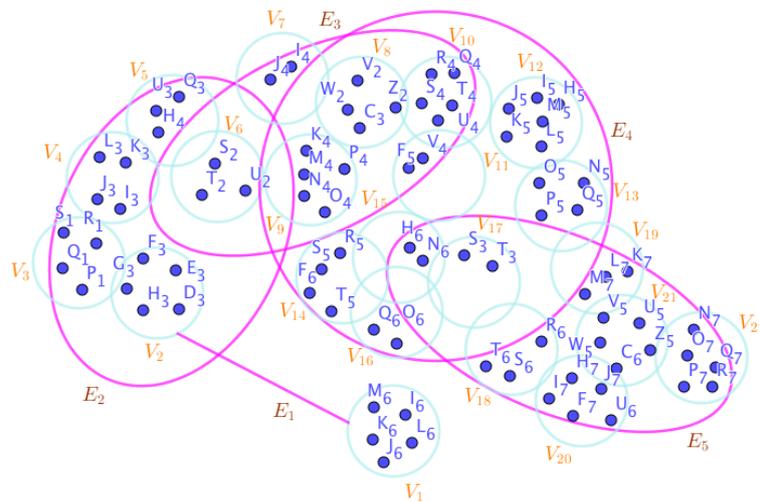


Figure 16. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

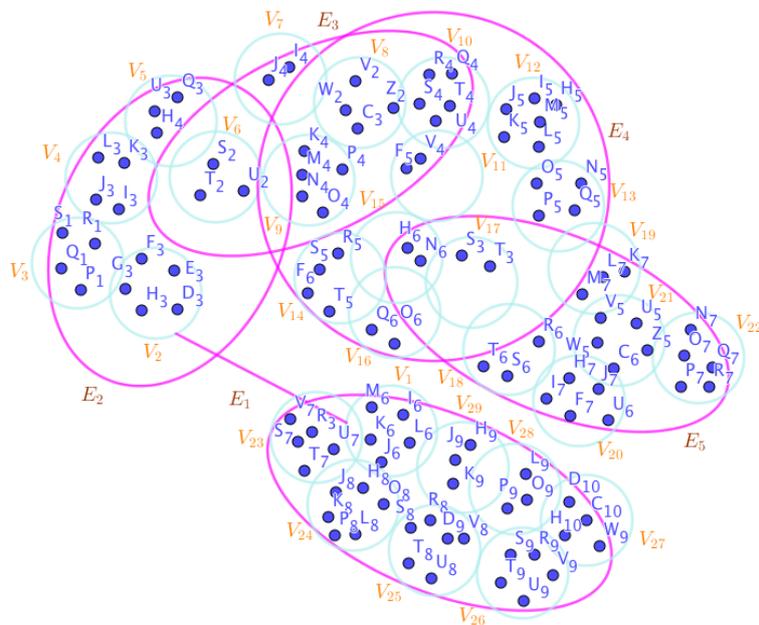


Figure 17. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

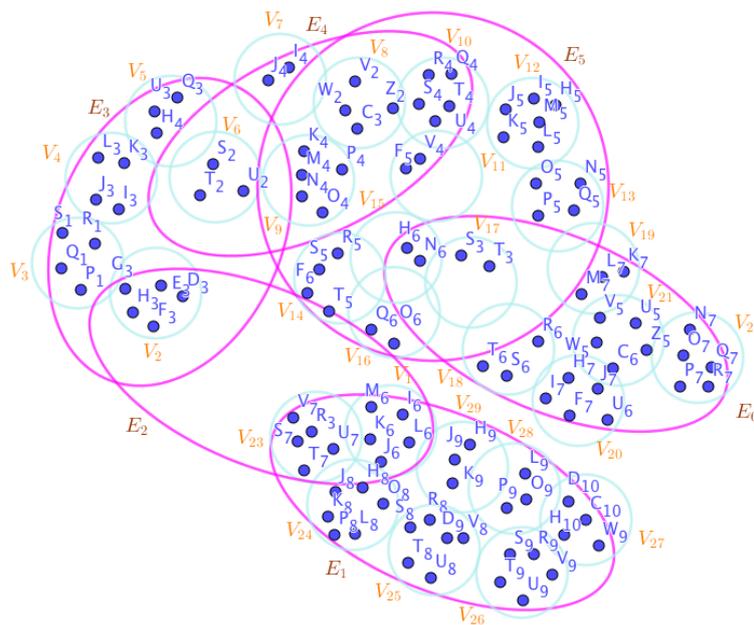


Figure 18. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

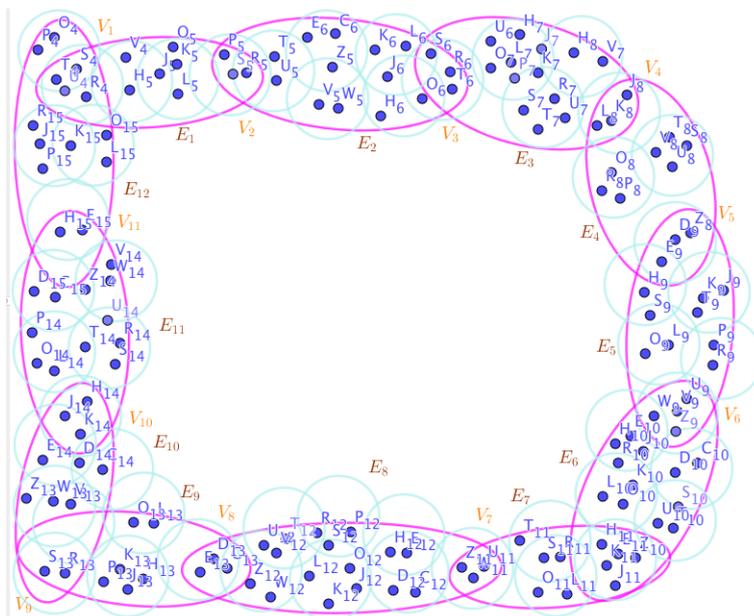


Figure 19. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

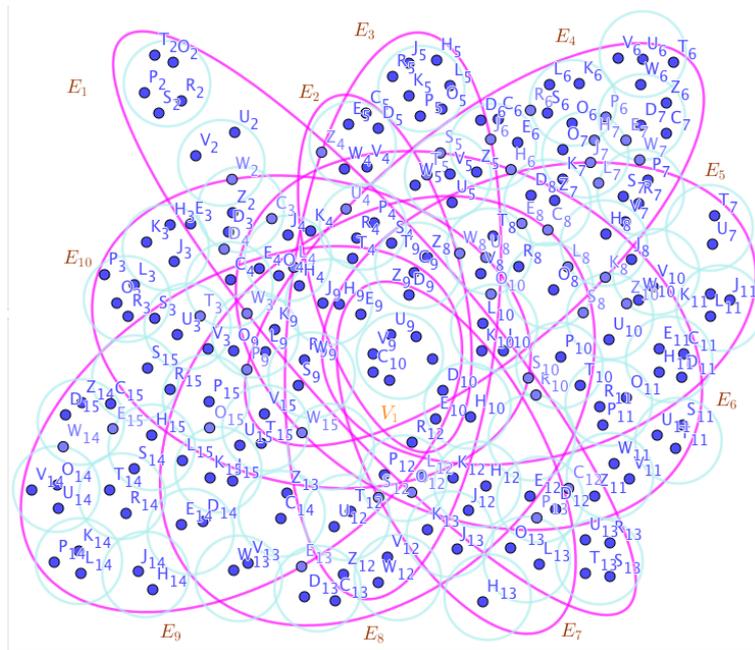


Figure 20. The SuperHyperGraphs Associated to the Notions of Failed SuperHyperClique in the Example (7).

of the neutrosophic SuperHyperVertices implies at least on-triangle style is up but sometimes the neutrosophic SuperHyperSet $V \setminus V \setminus \{x, y, z\}$ of the neutrosophic SuperHyperVertices is free-triangle and it doesn't make a contradiction to the supposition on the connected loopless neutrosophic SuperHyperGraph $ESHG : (V, E)$. Thus the minimum case never happens in the generality of the connected loopless neutrosophic SuperHyperGraphs. Thus if we assume in the worst case, literally, $V \setminus V \setminus \{x, y, z\}$, is a Failed SuperHyperClique. In other words, the least cardinality, the lower sharp bound for the cardinality, of a Failed SuperHyperClique is the cardinality of $V \setminus V \setminus \{x, y, z\}$. Then we've lost some connected loopless neutrosophic SuperHyperClasses of the connected loopless neutrosophic SuperHyperGraphs titled free-triangle. It's the contradiction to that fact on the generality. There are some counterexamples to deny this statement. One of them comes from the setting of the graph titled path and cycle are well-known classes in that setting and they could be considered as the examples for the tight bound of $V \setminus V \setminus \{x, z\}$. Let $V \setminus V \setminus \{z\}$ in mind. There's no necessity on the SuperHyperEdge since we need at least two SuperHyperVertices to form a SuperHyperEdge. It doesn't withdraw the principles of the main definition since there's no condition to be satisfied but the condition is on the existence of the SuperHyperEdge instead of acting on the SuperHyperVertices. In other words, if there's a SuperHyperEdge, then the neutrosophic SuperHyperSet has the necessary condition for the intended definition to be applied. Thus the $V \setminus V \setminus \{z\}$ is withdrawn not by the conditions of the main definition but by the necessity of the pre-condition on the usage of the main definition.

To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a

neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected loopless neutrosophic SuperHyperGraph $ESHG : (V, E)$. Then in the worst case, literally,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a Failed SuperHyperClique. In other words, the least cardinality, the lower sharp bound for the cardinality, of a Failed SuperHyperClique is the cardinality of $V \setminus V \setminus \{x, z\}$. \square

Proposition 9. Assume a simple neutrosophic SuperHyperGraph $ESHG : (V, E)$. Then the neutrosophic number of Failed SuperHyperClique has, the least cardinality, the lower sharp bound for cardinality, is the neutrosophic cardinality of

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

if there's a Failed SuperHyperClique with the least cardinality, the lower sharp bound for cardinality.

Proof. The neutrosophic structure of the neutrosophic Failed SuperHyperClique decorates the neutrosophic SuperHyperVertices have received complete neutrosophic connections so as this neutrosophic style implies different versions of neutrosophic SuperHyperEdges with the maximum neutrosophic cardinality in the terms of neutrosophic SuperHyperVertices are spotlight. The lower neutrosophic bound is to have the minimum neutrosophic groups of neutrosophic SuperHyperVertices have perfect neutrosophic connections inside and the outside of this neutrosophic SuperHyperSet doesn't matter but regarding the connectedness of the used neutrosophic SuperHyperGraph arising from its neutrosophic properties taken from the fact that it's simple. If there's no neutrosophic SuperHyperVertex in the targeted neutrosophic SuperHyperSet, then there's no neutrosophic connection. Furthermore, the neutrosophic existence of one neutrosophic SuperHyperVertex has no neutrosophic effect to talk about the neutrosophic Failed SuperHyperClique. Since at least two neutrosophic SuperHyperVertices involve to make a title in the neutrosophic background of the neutrosophic SuperHyperGraph. The neutrosophic SuperHyperGraph is obvious if it has no neutrosophic SuperHyperEdge but at least two neutrosophic SuperHyperVertices make the neutrosophic version of neutrosophic SuperHyperEdge. Thus in the neutrosophic setting of non-obvious neutrosophic SuperHyperGraph, there are at least one neutrosophic SuperHyperEdge. It's necessary to mention that the word "Simple" is used as neutrosophic adjective for the initial neutrosophic SuperHyperGraph, induces there's no neutrosophic appearance of the loop neutrosophic version of the neutrosophic SuperHyperEdge and this neutrosophic SuperHyperGraph is said to be loopless. The neutrosophic adjective "loop" on the basic neutrosophic framework engages one neutrosophic SuperHyperVertex but it never happens in this neutrosophic setting. With these neutrosophic bases, on a neutrosophic SuperHyperGraph, there's at least one neutrosophic SuperHyperEdge thus there's at least a neutrosophic Failed SuperHyperClique has the neutrosophic cardinality two. Thus, a neutrosophic Failed SuperHyperClique has the neutrosophic cardinality at least two. Assume a neutrosophic SuperHyperSet $V \setminus V \setminus \{z\}$. This neutrosophic SuperHyperSet isn't a neutrosophic Failed SuperHyperClique since either the neutrosophic SuperHyperGraph is an obvious neutrosophic SuperHyperModel thus it never happens since there's no neutrosophic usage of this neutrosophic framework and even more there's no neutrosophic connection inside or the neutrosophic SuperHyperGraph isn't obvious and as its consequences, there's a neutrosophic contradiction with the term "neutrosophic Failed SuperHyperClique" since the maximum neutrosophic cardinality never happens for this neutrosophic style of the neutrosophic SuperHyperSet and beyond that there's no

neutrosophic connection inside as mentioned in first neutrosophic case in the forms of drawback for this selected neutrosophic SuperHyperSet. Let $V \setminus V \setminus \{x, y, z\}$ comes up. This neutrosophic case implies having the neutrosophic style of on-triangle neutrosophic style on the every neutrosophic elements of this neutrosophic SuperHyperSet. Precisely, the neutrosophic Failed SuperHyperClique is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices such that any neutrosophic amount of the neutrosophic SuperHyperVertices are on-triangle neutrosophic style. The neutrosophic cardinality of the v SuperHypeSet $V \setminus V \setminus \{x, y, z\}$ is the maximum in comparison to the neutrosophic SuperHyperSet $V \setminus V \setminus \{z, x\}$ but the lower neutrosophic bound is up. Thus the minimum neutrosophic cardinality of the maximum neutrosophic cardinality ends up the neutrosophic discussion. The first neutrosophic term refers to the neutrosophic setting of the neutrosophic SuperHyperGraph but this key point is enough since there's a neutrosophic SuperHyperClass of a neutrosophic SuperHyperGraph has no on-triangle neutrosophic style amid any amount of its neutrosophic SuperHyperVertices. This neutrosophic setting of the neutrosophic SuperHyperModel proposes a neutrosophic SuperHyperSet has only two neutrosophic SuperHyperVertices such that there's neutrosophic amount of neutrosophic SuperHyperEdges involving these two neutrosophic SuperHyperVertices. The neutrosophic cardinality of this neutrosophic SuperHyperSet is the maximum and the neutrosophic case is occurred in the minimum neutrosophic situation. To sum them up, the neutrosophic SuperHyperSet $V \setminus V \setminus \{z, x\}$ has the maximum neutrosophic cardinality such that $V \setminus V \setminus \{z, x\}$ contains some neutrosophic SuperHyperVertices such that there's amount neutrosophic SuperHyperEdges for amount of neutrosophic SuperHyperVertices taken from the neutrosophic SuperHyperSet $V \setminus V \setminus \{z, x\}$. It means that the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V \setminus V \setminus \{z, x\}$. is a neutrosophic Failed SuperHyperClique for the neutrosophic SuperHyperGraph as used neutrosophic background in the neutrosophic terms of worst neutrosophic case and the lower neutrosophic bound occurred in the specific neutrosophic SuperHyperClasses of the neutrosophic SuperHyperGraphs which are neutrosophic free-triangle.

To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given

by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a simple neutrosophic SuperHyperGraph $ESHG : (V, E)$. Then the neutrosophic number of Failed SuperHyperClique has, the least cardinality, the lower sharp bound for cardinality, is the neutrosophic cardinality of

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

if there's a Failed SuperHyperClique with the least cardinality, the lower sharp bound for cardinality. \square

Proposition 10. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least

$$z \cup \{zx\}$$

It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique.

Proof. Assume a neutrosophic SuperHyperEdge has z neutrosophic number of the neutrosophic SuperHyperVertices. Then every neutrosophic SuperHyperVertex has at least one neutrosophic SuperHyperEdge with others in common. Thus those neutrosophic SuperHyperVertices have the eligibles to be contained in a neutrosophic Failed SuperHyperClique. Those neutrosophic SuperHyperVertices are potentially included in a neutrosophic style-Failed SuperHyperClique. Formally, consider

$$\{Z_1, Z_2, \dots, Z_z\}$$

are the neutrosophic SuperHyperVertices of a neutrosophic SuperHyperEdge. Thus

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z.$$

where the \sim isn't an equivalence relation but only the symmetric relation on the neutrosophic SuperHyperVertices of the neutrosophic SuperHyperGraph. The formal definition is as follows.

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z$$

if and only if Z_i and Z_j are the neutrosophic SuperHyperVertices and there's a neutrosophic SuperHyperEdge between the neutrosophic SuperHyperVertices Z_i and Z_j . The other definition for the neutrosophic SuperHyperEdge in the terms of neutrosophic Failed SuperHyperClique is

$$\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

This definition coincides with the definition of the neutrosophic Failed SuperHyperClique but with slightly differences in the maximum neutrosophic cardinality amid those neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. Thus the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$\max_z |\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}|_{\text{neutrosophic cardinality}},$$

is formalized with mathematical literatures on the neutrosophic Failed SuperHyperClique. Let $Z_i \overset{E}{\sim} Z_j$, be defined as Z_i and Z_j are the neutrosophic SuperHyperVertices belong to the neutrosophic SuperHyperEdge E . Thus,

$$E = \{Z_1, Z_2, \dots, Z_z \mid Z_i \overset{E}{\sim} Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

But with the slightly differences,

$$\begin{aligned} &\text{neutrosophic Failed SuperHyperClique} = \\ &\{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \overset{E_x}{\sim} Z_j\}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the

neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique.

To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by neutrosophic SuperHyperClique is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only three neutrosophic SuperHyperVertex inside the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet includes only three neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices inside the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed

SuperHyperClique is up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique and it's a neutrosophic Failed SuperHyperClique. Since it's the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices inside the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least

$$z \cup \{zx\}$$

It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. \square

Proposition 11. *Assume a connected non-obvious neutrosophic SuperHyperGraph $ESHG : (V, E)$. There's only one neutrosophic SuperHyperEdge has only less than three distinct interior neutrosophic SuperHyperVertices inside of any given neutrosophic quasi-Failed SuperHyperClique plus one neutrosophic SuperHyperNeighbor to one of them. In other words, there's only an unique neutrosophic SuperHyperEdge has only two distinct neutrosophic SuperHyperVertices in a neutrosophic quasi-Failed SuperHyperClique, plus one neutrosophic SuperHyperNeighbor to one of them.*

Proof. The obvious SuperHyperGraph has no SuperHyperEdges. But the non-obvious neutrosophic SuperHyperModel is up. The quasi-SuperHyperModel addresses some issues about the neutrosophic optimal SuperHyperObject. It specially delivers some remarks on the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices such that there's amount of neutrosophic SuperHyperEdges for amount of neutrosophic SuperHyperVertices taken from that neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices but this neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices is either has the maximum neutrosophic SuperHyperCardinality or it doesn't have maximum neutrosophic SuperHyperCardinality. In a non-obvious SuperHyperModel, there's at least one neutrosophic SuperHyperEdge containing at least two neutrosophic SuperHyperVertices. Thus it forms a neutrosophic quasi-Failed SuperHyperClique where the neutrosophic completion of the neutrosophic incidence is up in that. Thus it's, literarily, a neutrosophic embedded Failed SuperHyperClique. The SuperHyperNotions of embedded SuperHyperSet and quasi-SuperHyperSet

coincide. In the original setting, these types of SuperHyperSets only don't satisfy on the maximum SuperHyperCardinality. Thus the embedded setting is elected such that those SuperHyperSets have the maximum neutrosophic SuperHyperCardinality and they're neutrosophic SuperHyperOptimal. The less than three neutrosophic SuperHyperVertices are included in the minimum neutrosophic style of the embedded neutrosophic Failed SuperHyperClique. The interior types of the neutrosophic SuperHyperVertices are deciders. Since the neutrosophic number of SuperHyperNeighbors are only affected by the interior neutrosophic SuperHyperVertices. The common connections, more precise and more formal, the perfect connections inside the neutrosophic SuperHyperSet pose the neutrosophic Failed SuperHyperClique. Thus neutrosophic exterior SuperHyperVertices could be used only in one neutrosophic SuperHyperEdge and in neutrosophic SuperHyperRelation with the interior neutrosophic SuperHyperVertices in that neutrosophic SuperHyperEdge. In the embedded neutrosophic Failed SuperHyperClique, there's the usage of exterior neutrosophic SuperHyperVertices since they've more connections inside more than outside. Thus the title "exterior" is more relevant than the title "interior". One neutrosophic SuperHyperVertex has no connection, inside. Thus, the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices with one SuperHyperElement has been ignored in the exploring to lead on the optimal case implying the neutrosophic Failed SuperHyperClique. The neutrosophic Failed SuperHyperClique with the exclusion of the exclusion of two neutrosophic SuperHyperVertices and with other terms, the neutrosophic Failed SuperHyperClique with the inclusion of two neutrosophic SuperHyperVertices is a neutrosophic quasi-Failed SuperHyperClique. To sum them up, in a connected non-obvious neutrosophic SuperHyperGraph $ESHG : (V, E)$, there's only one neutrosophic SuperHyperEdge has only less than three distinct interior neutrosophic SuperHyperVertices inside of any given neutrosophic quasi-Failed SuperHyperClique. In other words, there's only an unique neutrosophic SuperHyperEdge has only two distinct neutrosophic SuperHyperVertices in a neutrosophic quasi-Failed SuperHyperClique. To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given

by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected non-obvious neutrosophic SuperHyperGraph $ESHG : (V, E)$. There's only one neutrosophic SuperHyperEdge has only less than three distinct interior neutrosophic SuperHyperVertices inside of any given neutrosophic quasi-Failed SuperHyperClique plus one neutrosophic SuperHyperNeighbor to one of them. In other words, there's only an unique neutrosophic SuperHyperEdge has only two distinct neutrosophic SuperHyperVertices in a neutrosophic quasi-Failed SuperHyperClique, plus one neutrosophic SuperHyperNeighbor to one of them. \square

Proposition 12. *Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all plus one neutrosophic SuperHyperNeighbor to one of them.*

Proof. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques. Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}}\}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}}\}. \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}} \mid \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= \\ & \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}}\}. \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2 \}.
 \end{aligned}$$

And then,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2 \}. &
 \end{aligned}$$

To get more visions in the closer look-up, there's an overall overlook.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} | & \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2 \}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} | & \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} | & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2 \}. &
 \end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Now, the extension of these types of approaches is up. Since the new term, “neutrosophic SuperHyperNeighborhood”, could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It’s, literarily, another name for “neutrosophic Quasi-Failed SuperHyperClique” but, precisely, it’s the generalization of “neutrosophic Quasi-Failed SuperHyperClique” since “neutrosophic Quasi-Failed SuperHyperClique” happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and background but “neutrosophic SuperHyperNeighborhood” may not happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, “neutrosophic SuperHyperNeighborhood”, “neutrosophic Quasi-Failed SuperHyperClique”, and “neutrosophic Failed SuperHyperClique” are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
= z_{\text{neutrosophic Number}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= & \\
\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}. &
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= & \\
\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}. &
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = & \\
\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}. &
\end{aligned}$$

And with go back to initial structure,

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= 2\}. &
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
= z_{\text{neutrosophic Number}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= 2\}. &
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all.

To make sense with precise words in the terms of “Failed”, the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all plus one neutrosophic SuperHyperNeighbor to one of them. \square

Proposition 13. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception plus one neutrosophic SuperHyperNeighbor to one of them but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out plus one neutrosophic SuperHyperNeighbor to one of them.

Proof. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a

neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure"]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out. To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception plus one neutrosophic SuperHyperNeighbor to one of them but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out plus one neutrosophic SuperHyperNeighbor to one of them.

□

Remark 14. The words “neutrosophic Failed SuperHyperClique” and “neutrosophic SuperHyperDominating” both refer to the maximum neutrosophic type-style. In other words, they either refer to the maximum neutrosophic SuperHyperNumber or to the minimum neutrosophic SuperHyperNumber and the neutrosophic SuperHyperSet either with the maximum neutrosophic SuperHyperCardinality or with the minimum neutrosophic SuperHyperCardinality.

Proposition 15. *Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Consider a neutrosophic SuperHyperDominating. Then a neutrosophic Failed SuperHyperClique has only one neutrosophic representative minus one neutrosophic SuperHyperNeighbor to one of them in.*

Proof. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Consider a neutrosophic SuperHyperDominating. By applying the Proposition (13), the neutrosophic results are up. Thus on a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, and in a neutrosophic SuperHyperDominating, a neutrosophic Failed SuperHyperClique has only one neutrosophic representative minus one neutrosophic SuperHyperNeighbor to one of them in. \square

3. Results on neutrosophic SuperHyperClasses

The previous neutrosophic approaches apply on the upcoming neutrosophic results on neutrosophic SuperHyperClasses.

Proposition 16. *Assume a connected neutrosophic SuperHyperPath $ESHP : (V, E)$. Then a neutrosophic Failed SuperHyperClique-style with the maximum neutrosophic SuperHyperCardinality is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices plus one neutrosophic SuperHyperNeighbor to one.*

Proposition 17. *Assume a connected neutrosophic SuperHyperPath $ESHP : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with only no neutrosophic exceptions in the form of interior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdges not excluding only any interior neutrosophic SuperHyperVertices from the neutrosophic unique SuperHyperEdges plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic number of all the interior neutrosophic SuperHyperVertices without any minus on SuperHyperNeighborhoods plus one neutrosophic SuperHyperNeighbor to one.*

Proof. Assume a connected SuperHyperPath $ESHP : (V, E)$. Assume a neutrosophic SuperHyperEdge has z neutrosophic number of the neutrosophic SuperHyperVertices. Then every neutrosophic SuperHyperVertex has at least one neutrosophic SuperHyperEdge with others in common. Thus those neutrosophic SuperHyperVertices have the eligibles to be contained in a neutrosophic Failed SuperHyperClique. Those neutrosophic SuperHyperVertices are potentially included in a neutrosophic style-Failed SuperHyperClique. Formally, consider

$$\{Z_1, Z_2, \dots, Z_z\}$$

are the neutrosophic SuperHyperVertices of a neutrosophic SuperHyperEdge. Thus

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z.$$

where the \sim isn't an equivalence relation but only the symmetric relation on the neutrosophic SuperHyperVertices of the neutrosophic SuperHyperGraph. The formal definition is as follows.

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z$$

if and only if Z_i and Z_j are the neutrosophic SuperHyperVertices and there's a neutrosophic SuperHyperEdge between the neutrosophic SuperHyperVertices Z_i and Z_j . The other definition for the neutrosophic SuperHyperEdge in the terms of neutrosophic Failed SuperHyperClique is

$$\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

This definition coincides with the definition of the neutrosophic Failed SuperHyperClique but with slightly differences in the maximum neutrosophic cardinality amid those neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. Thus the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$\max_z |\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}|_{\text{neutrosophic cardinality}}$$

is formalized with mathematical literatures on the neutrosophic Failed SuperHyperClique. Let $Z_i \stackrel{E}{\sim} Z_j$, be defined as Z_i and Z_j are the neutrosophic SuperHyperVertices belong to the neutrosophic SuperHyperEdge E . Thus,

$$E = \{Z_1, Z_2, \dots, Z_z \mid Z_i \stackrel{E}{\sim} Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

But with the slightly differences,

$$\begin{aligned} &\text{neutrosophic Failed SuperHyperClique} = \\ &\{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \stackrel{E_x}{\sim} Z_j\}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques.

Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} | \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} | \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} | \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = z_{\text{neutrosophic Number}} | & \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2\}.
 \end{aligned}$$

And then,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & = 2\}.
 \end{aligned}$$

To get more visions in the closer look-up, there's an overall overlook.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & | \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2\}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & | \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2\}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2\}.
 \end{aligned}$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{S \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

Now, the extension of these types of approaches is up. Since the new term, “neutrosophic SuperHyperNeighborhood”, could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It’s, literarily, another name for “neutrosophic Quasi-Failed SuperHyperClique” but, precisely, it’s the generalization of “neutrosophic Quasi-Failed SuperHyperClique” since “neutrosophic Quasi-Failed SuperHyperClique” happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and background but “neutrosophic SuperHyperNeighborhood” may not happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, “neutrosophic SuperHyperNeighborhood”, “neutrosophic Quasi-Failed SuperHyperClique”, and “neutrosophic Failed SuperHyperClique” are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}}\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = z_{\text{neutrosophic Number}} \mid |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}}\}.$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
 &= \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
 |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}.
 \end{aligned}$$

And with go back to initial structure,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
 \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
 = 2\}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
 \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
 |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
 = z_{\text{neutrosophic Number}} \mid \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
 = 2\}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
 &= \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}} = 2\}.
 \end{aligned}$$



$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | N_{\text{neutrosophic SuperHyperSet}} |_{\text{neutrosophic Cardinality}} = 2\}.$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure"]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out. To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's

no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

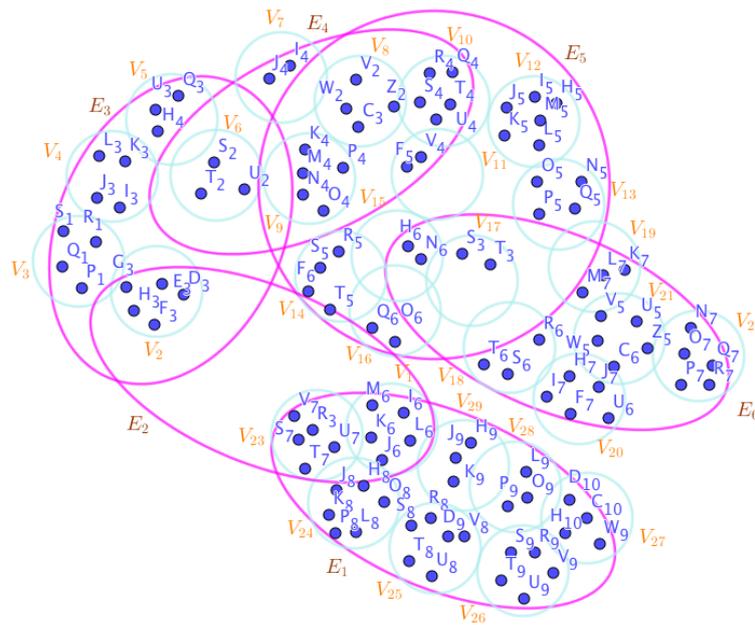


Figure 21. a neutrosophic SuperHyperPath Associated to the Notions of neutrosophic Failed SuperHyperClique in the Example (18).

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperPath $ESHP : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with only no neutrosophic exceptions in the form of interior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdges not excluding only any interior neutrosophic SuperHyperVertices from the neutrosophic unique SuperHyperEdges plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic number of all the interior neutrosophic SuperHyperVertices without any minus on SuperHyperNeighborhoods plus one neutrosophic SuperHyperNeighbor to one. \square

Example 18. In the Figure (21), the connected neutrosophic SuperHyperPath $ESHP : (V, E)$, is highlighted and featured. The neutrosophic SuperHyperSet, corresponded to $E_5, V_{E_5} \cup \{V_{25}$, of the neutrosophic SuperHyperVertices of the connected neutrosophic SuperHyperPath $ESHP : (V, E)$, in the neutrosophic SuperHyperModel (21), is the Failed SuperHyperClique.

Proposition 19. Assume a connected neutrosophic SuperHyperCycle $ESHC : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with only no neutrosophic exceptions on the form of interior neutrosophic SuperHyperVertices from the same neutrosophic SuperHyperNeighborhoods not excluding any neutrosophic SuperHyperVertex plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic number of all the neutrosophic SuperHyperEdges in the terms of the maximum neutrosophic cardinality plus one neutrosophic SuperHyperNeighbor to one.

Proof. Assume a connected SuperHyperCycle $ESHC : (V, E)$. Assume a neutrosophic SuperHyperEdge has z neutrosophic number of the neutrosophic SuperHyperVertices. Then every neutrosophic SuperHyperVertex has at least one neutrosophic SuperHyperEdge with others in common. Thus those neutrosophic SuperHyperVertices have the eligibles to be contained in a

neutrosophic Failed SuperHyperClique. Those neutrosophic SuperHyperVertices are potentially included in a neutrosophic style-Failed SuperHyperClique. Formally, consider

$$\{Z_1, Z_2, \dots, Z_z\}$$

are the neutrosophic SuperHyperVertices of a neutrosophic SuperHyperEdge. Thus

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z.$$

where the \sim isn't an equivalence relation but only the symmetric relation on the neutrosophic SuperHyperVertices of the neutrosophic SuperHyperGraph. The formal definition is as follows.

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z$$

if and only if Z_i and Z_j are the neutrosophic SuperHyperVertices and there's a neutrosophic SuperHyperEdge between the neutrosophic SuperHyperVertices Z_i and Z_j . The other definition for the neutrosophic SuperHyperEdge in the terms of neutrosophic Failed SuperHyperClique is

$$\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

This definition coincides with the definition of the neutrosophic Failed SuperHyperClique but with slightly differences in the maximum neutrosophic cardinality amid those neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. Thus the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$\max_z |\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}|_{\text{neutrosophic cardinality}},$$

is formalized with mathematical literatures on the neutrosophic Failed SuperHyperClique. Let $Z_i \stackrel{E}{\sim} Z_j$, be defined as Z_i and Z_j are the neutrosophic SuperHyperVertices belong to the neutrosophic SuperHyperEdge E . Thus,

$$E = \{Z_1, Z_2, \dots, Z_z \mid Z_i \stackrel{E}{\sim} Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

But with the slightly differences,

$$\begin{aligned} &\text{neutrosophic Failed SuperHyperClique} = \\ &\{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \stackrel{E_x}{\sim} Z_j\}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic

SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques. Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in U_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in U_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = z_{\text{neutrosophic Number}} \mid & \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \max_{z_{\text{neutrosophic Number}}} \}. \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2 \}.
 \end{aligned}$$

And then,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & = 2 \}.
 \end{aligned}$$

To get more visions in the closer look-up, there's an overall overlook.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & \mid \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}} & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2 \}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & \mid \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}} & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2 \}. &
 \end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Now, the extension of these types of approaches is up. Since the new term, “neutrosophic SuperHyperNeighborhood”, could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It’s, literarily, another name for “neutrosophic Quasi-Failed SuperHyperClique” but, precisely, it’s the generalization of “neutrosophic Quasi-Failed SuperHyperClique” since “neutrosophic Quasi-Failed SuperHyperClique” happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and background but “neutrosophic SuperHyperNeighborhood” may not happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, “neutrosophic SuperHyperNeighborhood”, “neutrosophic Quasi-Failed SuperHyperClique”, and “neutrosophic Failed SuperHyperClique” are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \\
&\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
&= z_{\text{neutrosophic Number}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \max_{z_{\text{neutrosophic Number}}} \}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \max_{z_{\text{neutrosophic Number}}} \}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \max_{z_{\text{neutrosophic Number}}} \}.
\end{aligned}$$

And with go back to initial structure,

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \\
&\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \\
&\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
&= z_{\text{neutrosophic Number}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure"]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The

any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out.

To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperCycle $ESHC : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with only no neutrosophic exceptions on the form of interior neutrosophic SuperHyperVertices from the same neutrosophic SuperHyperNeighborhoods not excluding any neutrosophic SuperHyperVertex plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic number of all the neutrosophic SuperHyperEdges in the terms of the maximum neutrosophic cardinality plus one neutrosophic SuperHyperNeighbor to one. \square

Example 20. In the Figure (22), the connected neutrosophic SuperHyperCycle $NSHC : (V, E)$, is highlighted and featured. The obtained neutrosophic SuperHyperSet, , corresponded to E_8, V_{E_8} , by the Algorithm in previous result, of the neutrosophic SuperHyperVertices of the connected neutrosophic SuperHyperCycle $NSHC : (V, E)$, in the neutrosophic SuperHyperModel (22), corresponded to E_8 ,

$$V_{E_8} \cup \{H_7, J_7, K_7, P_7, L_7, U_6, O_7\},$$

is the neutrosophic Failed SuperHyperClique.

Proposition 21. Assume a connected neutrosophic SuperHyperStar $ESHS : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices, not neutrosophic excluding the neutrosophic SuperHyperCenter, with only all neutrosophic exceptions in the neutrosophic form of interior neutrosophic SuperHyperVertices from common neutrosophic SuperHyperEdge, neutrosophic including only one neutrosophic SuperHyperEdge plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic number of the neutrosophic cardinality of the one neutrosophic SuperHyperEdge plus one neutrosophic SuperHyperNeighbor to one.

Proof. Assume a connected SuperHyperStar $ESHS : (V, E)$. Assume a neutrosophic SuperHyperEdge has z neutrosophic number of the neutrosophic SuperHyperVertices. Then every neutrosophic SuperHyperVertex has at least one neutrosophic SuperHyperEdge with others in common. Thus those neutrosophic SuperHyperVertices have the eligibles to be contained in a neutrosophic Failed SuperHyperClique. Those neutrosophic SuperHyperVertices are potentially included in a neutrosophic style-Failed SuperHyperClique. Formally, consider

$$\{Z_1, Z_2, \dots, Z_z\}$$

But with the slightly differences,

$$\begin{aligned} \text{neutrosophic Failed SuperHyperClique} = \\ \{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \stackrel{E_x}{\sim} Z_j\}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques. Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}}\}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{ &S_{\text{neutrosophic SuperHyperSet}} \mid \\ &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}}\}. \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
 \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid & \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} \mid & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \}. &
 \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \}. &
 \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2 \}. &
 \end{aligned}$$

And then,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2 \}. &
 \end{aligned}$$

To get more visions in the closer look-up, there's an overall overlook.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &\in U_{z_{\text{neutrosophic Number}}} \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
 U_{z_{\text{neutrosophic Number}}} \{ &S_{\text{neutrosophic SuperHyperSet}} \mid \\
 S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= 2 \}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
 U_{z_{\text{neutrosophic Number}}} \{ &S_{\text{neutrosophic SuperHyperSet}} \mid \\
 S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= z_{\text{neutrosophic Number}} \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= 2 \}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2 \}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= 2 \}.
 \end{aligned}$$

Now, the extension of these types of approaches is up. Since the new term, "neutrosophic SuperHyperNeighborhood", could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It's, literarily, another name for "neutrosophic Quasi-Failed SuperHyperClique" but, precisely, it's the generalization of "neutrosophic Quasi-Failed SuperHyperClique" since "neutrosophic Quasi-Failed SuperHyperClique" happens "neutrosophic Failed SuperHyperClique" in a neutrosophic SuperHyperGraph as initial framework and background but "neutrosophic SuperHyperNeighborhood" may not happens "neutrosophic Failed SuperHyperClique" in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, "neutrosophic SuperHyperNeighborhood", "neutrosophic Quasi-Failed SuperHyperClique", and "neutrosophic Failed SuperHyperClique" are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{ &N_{\text{neutrosophic SuperHyperNeighborhood}} | \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} | & \\ |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = z_{\text{neutrosophic Number}} | & \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | & \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | & \\ |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= \\ \max & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

And with go back to initial structure,

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} | & \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = 2 \}. & \end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \\
&\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
&= z_{\text{neutrosophic Number}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the

neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure".]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out. To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is

a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperStar $ESHS : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices, not neutrosophic excluding the neutrosophic SuperHyperCenter, with only all neutrosophic exceptions in the neutrosophic form of interior neutrosophic SuperHyperVertices from common neutrosophic SuperHyperEdge, neutrosophic including only one neutrosophic SuperHyperEdge plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic number of the neutrosophic cardinality of the one neutrosophic SuperHyperEdge plus one neutrosophic SuperHyperNeighbor to one.

□

Example 22. In the Figure (23), the connected neutrosophic SuperHyperStar $ESHS : (V, E)$, is highlighted and featured. The obtained neutrosophic SuperHyperSet, by the Algorithm in previous neutrosophic result, of the neutrosophic SuperHyperVertices of the connected neutrosophic SuperHyperStar $ESHS : (V, E)$, in the neutrosophic SuperHyperModel (23), corresponded to E_6 ,

$$V_{E_6} \cup \{W_6Z_6C_7D_7P_6E_7W_7\},$$

is the neutrosophic Failed SuperHyperClique.

Proposition 23. Assume a connected neutrosophic SuperHyperBipartite $ESHB : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with no any neutrosophic exceptions in the form of interior neutrosophic SuperHyperVertices titled neutrosophic

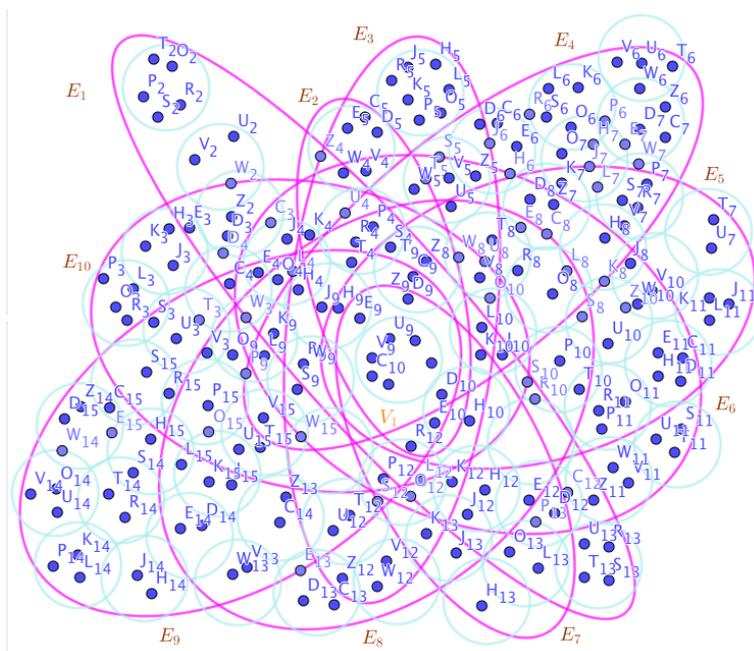


Figure 23. a neutrosophic SuperHyperStar Associated to the neutrosophic Notions of neutrosophic Failed SuperHyperClique in the neutrosophic Example (22).

SuperHyperNeighbors with only no exception plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic maximum number of on neutrosophic cardinality of the first SuperHyperPart plus neutrosophic SuperHyperNeighbors plus one neutrosophic SuperHyperNeighbor to one.

Proof. Assume a connected neutrosophic SuperHyperBipartite $ESHB : (V, E)$. Assume a neutrosophic SuperHyperEdge has z neutrosophic number of the neutrosophic SuperHyperVertices. Then every neutrosophic SuperHyperVertex has at least one neutrosophic SuperHyperEdge with others in common. Thus those neutrosophic SuperHyperVertices have the eligibles to be contained in a neutrosophic Failed SuperHyperClique. Those neutrosophic SuperHyperVertices are potentially included in a neutrosophic style-Failed SuperHyperClique. Formally, consider

$$\{Z_1, Z_2, \dots, Z_z\}$$

are the neutrosophic SuperHyperVertices of a neutrosophic SuperHyperEdge. Thus

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z.$$

where the \sim isn't an equivalence relation but only the symmetric relation on the neutrosophic SuperHyperVertices of the neutrosophic SuperHyperGraph. The formal definition is as follows.

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z$$

if and only if Z_i and Z_j are the neutrosophic SuperHyperVertices and there's a neutrosophic SuperHyperEdge between the neutrosophic SuperHyperVertices Z_i and Z_j . The other definition for the neutrosophic SuperHyperEdge in the terms of neutrosophic Failed SuperHyperClique is

$$\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

This definition coincides with the definition of the neutrosophic Failed SuperHyperClique but with slightly differences in the maximum neutrosophic cardinality amid those neutrosophic

type-SuperHyperSets of the neutrosophic SuperHyperVertices. Thus the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$\max_z |\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}|_{\text{neutrosophic cardinality}},$$

is formalized with mathematical literatures on the neutrosophic Failed SuperHyperClique. Let $Z_i \stackrel{E}{\sim} Z_j$, be defined as Z_i and Z_j are the neutrosophic SuperHyperVertices belong to the neutrosophic SuperHyperEdge E . Thus,

$$E = \{Z_1, Z_2, \dots, Z_z \mid Z_i \stackrel{E}{\sim} Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

But with the slightly differences,

$$\begin{aligned} &\text{neutrosophic Failed SuperHyperClique} = \\ &\{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \stackrel{E_x}{\sim} Z_j, \}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques. Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\ &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned}
 &G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} \\
 &[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \\
 &\cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\
 &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\
 &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
 &= z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned}
 &G_{\text{neutrosophic Failed SuperHyperClique}} = \\
 &\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
 &[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \\
 &\cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\
 &S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, \\
 &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
 &= z_{\text{neutrosophic Number}} \mid \\
 &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
 &= \\
 &\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned}
 &G_{\text{neutrosophic Failed SuperHyperClique}} = \\
 &\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
 &[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
 &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
 &= \\
 &\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 &G_{\text{neutrosophic Failed SuperHyperClique}} = \\
 &\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
 &[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
 &|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
 &= \\
 &\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2 \}.
 \end{aligned}$$

And then,

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{S \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

To get more visions in the closer look-up, there's an overall overlook.

$$G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} | S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{S \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} | S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = z_{\text{neutrosophic Number}} | |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{S \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{S \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

Now, the extension of these types of approaches is up. Since the new term, “neutrosophic SuperHyperNeighborhood”, could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It's, literarily, another name for “neutrosophic Quasi-Failed SuperHyperClique” but, precisely, it's the generalization of “neutrosophic Quasi-Failed

SuperHyperClique” since “neutrosophic Quasi-Failed SuperHyperClique” happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and background but “neutrosophic SuperHyperNeighborhood” may not happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, “neutrosophic SuperHyperNeighborhood”, “neutrosophic Quasi-Failed SuperHyperClique”, and “neutrosophic Failed SuperHyperClique” are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{ &N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\ |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = z_{\text{neutrosophic Number}} \mid & \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\ |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\ |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} &= \\ \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}. \end{aligned}$$

And with go back to initial structure,

$$G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} | |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} | |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = z_{\text{neutrosophic Number}} | |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have the maximum neutrosophic cardinality

of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure"]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out. To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given

by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperBipartite $ESHB : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with no any neutrosophic exceptions in the form of interior neutrosophic SuperHyperVertices titled neutrosophic SuperHyperNeighbors with only no exception plus one neutrosophic SuperHypeNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic maximum number of on neutrosophic cardinality of the first SuperHyperPart plus neutrosophic SuperHyperNeighbors plus one neutrosophic SuperHypeNeighbor to one.

□

Example 24. In the neutrosophic Figure (24), the connected neutrosophic SuperHyperBipartite $ESHB : (V, E)$, is neutrosophic highlighted and neutrosophic featured. The obtained neutrosophic SuperHyperSet, by the neutrosophic Algorithm in previous neutrosophic result, of the neutrosophic SuperHyperVertices of the connected neutrosophic SuperHyperBipartite $ESHB : (V, E)$, in the neutrosophic SuperHyperModel (24), , corresponded to E_6 ,

$$V_{E_6} \cup \{P_2O_2T_2R_2U_2S_2V_2\},$$

if and only if Z_i and Z_j are the neutrosophic SuperHyperVertices and there's a neutrosophic SuperHyperEdge between the neutrosophic SuperHyperVertices Z_i and Z_j . The other definition for the neutrosophic SuperHyperEdge in the terms of neutrosophic Failed SuperHyperClique is

$$\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

This definition coincides with the definition of the neutrosophic Failed SuperHyperClique but with slightly differences in the maximum neutrosophic cardinality amid those neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. Thus the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$\max_z |\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}|_{\text{neutrosophic cardinality}}$$

is formalized with mathematical literatures on the neutrosophic Failed SuperHyperClique. Let $Z_i \stackrel{E}{\sim} Z_j$, be defined as Z_i and Z_j are the neutrosophic SuperHyperVertices belong to the neutrosophic SuperHyperEdge E . Thus,

$$E = \{Z_1, Z_2, \dots, Z_z \mid Z_i \stackrel{E}{\sim} Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

But with the slightly differences,

$$\begin{aligned} &\text{neutrosophic Failed SuperHyperClique} = \\ &\{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \stackrel{E_x}{\sim} Z_j\}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques.

Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= z_{\text{neutrosophic Number}} \mid \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &\max_{z_{\text{neutrosophic Number}}} \}. \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &\mid \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\ &= \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &\max_{z_{\text{neutrosophic Number}}} \}. \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2\}.
 \end{aligned}$$

And then,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & = 2\}.
 \end{aligned}$$

To get more visions in the closer look-up, there's an overall overlook.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & | \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2\}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & | \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}}, & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2\}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & | \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2\}.
 \end{aligned}$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{S \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.$$

Now, the extension of these types of approaches is up. Since the new term, “neutrosophic SuperHyperNeighborhood”, could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It’s, literarily, another name for “neutrosophic Quasi-Failed SuperHyperClique” but, precisely, it’s the generalization of “neutrosophic Quasi-Failed SuperHyperClique” since “neutrosophic Quasi-Failed SuperHyperClique” happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and background but “neutrosophic SuperHyperNeighborhood” may not happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, “neutrosophic SuperHyperNeighborhood”, “neutrosophic Quasi-Failed SuperHyperClique”, and “neutrosophic Failed SuperHyperClique” are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}}\}.$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = z_{\text{neutrosophic Number}} \mid |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} = \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}}\}.$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
 |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

And with go back to initial structure,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
 \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
 = 2\}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
 \cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
 |N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} \mid & \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
 = 2\}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
 |N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2\}.
 \end{aligned}$$

$$G_{\text{neutrosophic Failed SuperHyperClique}} = \{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} | N_{\text{neutrosophic SuperHyperSet}} |_{\text{neutrosophic Cardinality}} = 2\}.$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure"]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out. To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's **not** only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's

no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

"neutrosophic Failed SuperHyperClique"

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

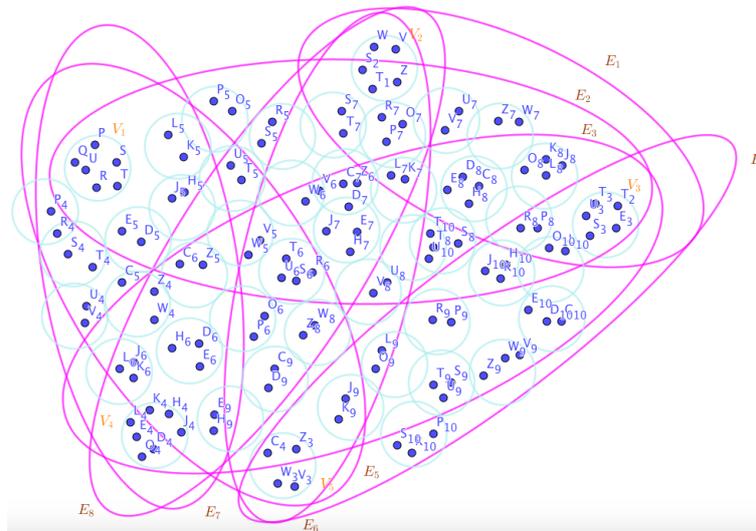


Figure 25. a neutrosophic SuperHyperMultipartite Associated to the Notions of neutrosophic Failed SuperHyperClique in the Example (26)

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperMultipartite $ESHM : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices with only no neutrosophic exception in the neutrosophic form of interior neutrosophic SuperHyperVertices from a neutrosophic SuperHyperPart and only no exception in the form of interior SuperHyperVertices from another SuperHyperPart titled “SuperHyperNeighbors” with neglecting and ignoring more than one of them plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic maximum number on all the neutrosophic summation on the neutrosophic cardinality of the all neutrosophic SuperHyperParts form one SuperHyperEdges not plus any plus one neutrosophic SuperHyperNeighbor to one. \square

Example 26. In the Figure (25), the connected neutrosophic SuperHyperMultipartite $ESHM : (V, E)$, is highlighted and neutrosophic featured. The obtained neutrosophic SuperHyperSet, by the Algorithm in previous neutrosophic result, of the neutrosophic SuperHyperVertices of the connected neutrosophic SuperHyperMultipartite $ESHM : (V, E)$, corresponded to $E_3, V_{E_3} \cup V_4$, in the neutrosophic SuperHyperModel (25), is the neutrosophic Failed SuperHyperClique.

Proposition 27. Assume a connected neutrosophic SuperHyperWheel $ESHW : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices, not excluding the neutrosophic SuperHyperCenter, with only no exception in the form of interior neutrosophic SuperHyperVertices from same neutrosophic SuperHyperEdge with not the exclusion plus any plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic maximum number on all the neutrosophic number of all the neutrosophic SuperHyperEdges have common neutrosophic SuperHyperNeighbors inside for a neutrosophic SuperHyperVertex with the not exclusion plus any plus one neutrosophic SuperHyperNeighbor to one.

Proof. Assume a connected neutrosophic SuperHyperWheel $ESHW : (V, E)$. Assume a neutrosophic SuperHyperEdge has z neutrosophic number of the neutrosophic SuperHyperVertices. Then every neutrosophic SuperHyperVertex has at least one neutrosophic SuperHyperEdge with others in common. Thus those neutrosophic SuperHyperVertices have the eligibles to be contained in a

neutrosophic Failed SuperHyperClique. Those neutrosophic SuperHyperVertices are potentially included in a neutrosophic style-Failed SuperHyperClique. Formally, consider

$$\{Z_1, Z_2, \dots, Z_z\}$$

are the neutrosophic SuperHyperVertices of a neutrosophic SuperHyperEdge. Thus

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z.$$

where the \sim isn't an equivalence relation but only the symmetric relation on the neutrosophic SuperHyperVertices of the neutrosophic SuperHyperGraph. The formal definition is as follows.

$$Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z$$

if and only if Z_i and Z_j are the neutrosophic SuperHyperVertices and there's a neutrosophic SuperHyperEdge between the neutrosophic SuperHyperVertices Z_i and Z_j . The other definition for the neutrosophic SuperHyperEdge in the terms of neutrosophic Failed SuperHyperClique is

$$\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

This definition coincides with the definition of the neutrosophic Failed SuperHyperClique but with slightly differences in the maximum neutrosophic cardinality amid those neutrosophic type-SuperHyperSets of the neutrosophic SuperHyperVertices. Thus the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$\max_z |\{Z_1, Z_2, \dots, Z_z \mid Z_i \sim Z_j, i \neq j, i, j = 1, 2, \dots, z\}|_{\text{neutrosophic cardinality}},$$

is formalized with mathematical literatures on the neutrosophic Failed SuperHyperClique. Let $Z_i \stackrel{E}{\sim} Z_j$, be defined as Z_i and Z_j are the neutrosophic SuperHyperVertices belong to the neutrosophic SuperHyperEdge E . Thus,

$$E = \{Z_1, Z_2, \dots, Z_z \mid Z_i \stackrel{E}{\sim} Z_j, i \neq j, i, j = 1, 2, \dots, z\}.$$

But with the slightly differences,

$$\begin{aligned} &\text{neutrosophic Failed SuperHyperClique} = \\ &\{Z_1, Z_2, \dots, Z_z \mid \forall i \neq j, i, j = 1, 2, \dots, z, \exists E_x, Z_i \stackrel{E_x}{\sim} Z_j\}. \end{aligned}$$

Thus E is a neutrosophic quasi-Failed SuperHyperClique where E is fixed that means $E_x = E$. for all neutrosophic intended SuperHyperVertices but in a neutrosophic Failed SuperHyperClique, E_x could be different and it's not unique. To sum them up, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. If a neutrosophic SuperHyperEdge has z neutrosophic SuperHyperVertices, then the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least z . It's straightforward that the neutrosophic cardinality of the neutrosophic Failed SuperHyperClique is at least the maximum neutrosophic number of neutrosophic SuperHyperVertices of the neutrosophic SuperHyperEdges. In other words, the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices are renamed to neutrosophic Failed SuperHyperClique in some cases but the neutrosophic SuperHyperEdge with the maximum neutrosophic number of neutrosophic SuperHyperVertices, has the neutrosophic SuperHyperVertices are contained in a neutrosophic Failed SuperHyperClique. The main definition of the neutrosophic Failed SuperHyperClique has two titles. a neutrosophic quasi-Failed SuperHyperClique and its corresponded quasi-maximum neutrosophic

SuperHyperCardinality are two titles in the terms of quasi-styles. For any neutrosophic number, there's a neutrosophic quasi-Failed SuperHyperClique with that quasi-maximum neutrosophic SuperHyperCardinality in the terms of the embedded neutrosophic SuperHyperGraph. If there's an embedded neutrosophic SuperHyperGraph, then the neutrosophic quasi-SuperHyperNotions lead us to take the collection of all the neutrosophic quasi-Failed SuperHyperCliques for all neutrosophic numbers less than its neutrosophic corresponded maximum number. The essence of the neutrosophic Failed SuperHyperClique ends up but this essence starts up in the terms of the neutrosophic quasi-Failed SuperHyperClique, again and more in the operations of collecting all the neutrosophic quasi-Failed SuperHyperCliques acted on the all possible used formations of the neutrosophic SuperHyperGraph to achieve one neutrosophic number. This neutrosophic number is considered as the equivalence class for all corresponded quasi-Failed SuperHyperCliques. Let $z_{\text{neutrosophic Number}}$, $S_{\text{neutrosophic SuperHyperSet}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperSet and a neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

As its consequences, the formal definition of the neutrosophic Failed SuperHyperClique is re-formalized and redefined as follows.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &\in \cup_{z_{\text{neutrosophic Number}}} \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ &= z_{\text{neutrosophic Number}} \}. \end{aligned}$$

To get more precise perceptions, the follow-up expressions propose another formal technical definition for the neutrosophic Failed SuperHyperClique.

$$\begin{aligned} G_{\text{neutrosophic Failed SuperHyperClique}} &= \\ \{S \in \cup_{z_{\text{neutrosophic Number}}} & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\ \cup_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} \mid \\ S_{\text{neutrosophic SuperHyperSet}} &= G_{\text{neutrosophic Failed SuperHyperClique}}, \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = z_{\text{neutrosophic Number}} \mid & \\ |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\ = & \\ [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \max_{z_{\text{neutrosophic Number}}} \}. \end{aligned}$$

In more concise and more convenient ways, the modified definition for the neutrosophic Failed SuperHyperClique poses the upcoming expressions.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} \}.
 \end{aligned}$$

To translate the statement to this mathematical literature, the formulae will be revised.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = & \\
 \max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} & z_{\text{neutrosophic Number}} = 2 \}.
 \end{aligned}$$

And then,

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & = 2 \}.
 \end{aligned}$$

To get more visions in the closer look-up, there's an overall overlook.

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & \mid \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}} & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2 \}. &
 \end{aligned}$$

$$\begin{aligned}
 G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
 \{S \in U_{z_{\text{neutrosophic Number}}} & \\
 [z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} & = \\
 U_{z_{\text{neutrosophic Number}}} \{S_{\text{neutrosophic SuperHyperSet}} & \mid \\
 S_{\text{neutrosophic SuperHyperSet}} = G_{\text{neutrosophic Failed SuperHyperClique}} & \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = z_{\text{neutrosophic Number}} & \mid \\
 |S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
 = 2 \}. &
 \end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{S \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|S_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Now, the extension of these types of approaches is up. Since the new term, “neutrosophic SuperHyperNeighborhood”, could be redefined as the collection of the neutrosophic SuperHyperVertices such that any amount of its neutrosophic SuperHyperVertices are incident to a neutrosophic SuperHyperEdge. It’s, literarily, another name for “neutrosophic Quasi-Failed SuperHyperClique” but, precisely, it’s the generalization of “neutrosophic Quasi-Failed SuperHyperClique” since “neutrosophic Quasi-Failed SuperHyperClique” happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and background but “neutrosophic SuperHyperNeighborhood” may not happens “neutrosophic Failed SuperHyperClique” in a neutrosophic SuperHyperGraph as initial framework and preliminarily background since there are some ambiguities about the neutrosophic SuperHyperCardinality arise from it. To get orderly keywords, the terms, “neutrosophic SuperHyperNeighborhood”, “neutrosophic Quasi-Failed SuperHyperClique”, and “neutrosophic Failed SuperHyperClique” are up.

Thus, let $z_{\text{neutrosophic Number}}$, $N_{\text{neutrosophic SuperHyperNeighborhood}}$ and $G_{\text{neutrosophic Failed SuperHyperClique}}$ be a neutrosophic number, a neutrosophic SuperHyperNeighborhood and a neutrosophic Failed SuperHyperClique and the new terms are up.

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} \{z_{\text{neutrosophic Number}}\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} &= \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
= z_{\text{neutrosophic Number}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= & \\
\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \} & \cdot
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= & \\
\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \} & \cdot
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid & \\
|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = & \\
\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} \} & \cdot
\end{aligned}$$

And with go back to initial structure,

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= 2\} & \cdot
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} & \\
[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} = & \\
\cup_{z_{\text{neutrosophic Number}}} \{N_{\text{neutrosophic SuperHyperNeighborhood}} \mid & \\
|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} & \\
= z_{\text{neutrosophic Number}} \mid & \\
|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} & \\
= 2\} & \cdot
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperNeighborhood}}|_{\text{neutrosophic Cardinality}} \\
&= \\
&\max_{[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}}} z_{\text{neutrosophic Number}} = 2\}.
\end{aligned}$$

$$\begin{aligned}
G_{\text{neutrosophic Failed SuperHyperClique}} &= \\
&\{N_{\text{neutrosophic SuperHyperNeighborhood}} \in \cup_{z_{\text{neutrosophic Number}}} \\
&[z_{\text{neutrosophic Number}}]_{\text{neutrosophic Class}} \mid \\
&|N_{\text{neutrosophic SuperHyperSet}}|_{\text{neutrosophic Cardinality}} = 2\}.
\end{aligned}$$

Thus, in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, the all interior neutrosophic SuperHyperVertices belong to any neutrosophic quasi-Failed SuperHyperClique if for any of them, and any of other corresponded neutrosophic SuperHyperVertex, the two interior neutrosophic SuperHyperVertices are mutually neutrosophic SuperHyperNeighbors with no neutrosophic exception at all. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Let a neutrosophic SuperHyperEdge $ESHE$ has some neutrosophic SuperHyperVertices r . Consider all neutrosophic numbers of those neutrosophic SuperHyperVertices from that neutrosophic SuperHyperEdge excluding excluding more than r distinct neutrosophic SuperHyperVertices, exclude to any given neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices. Consider there's a neutrosophic Failed SuperHyperClique with the least cardinality, the lower sharp neutrosophic bound for neutrosophic cardinality. Assume a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \setminus \{z\}$ is a neutrosophic SuperHyperSet S of the neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common but it isn't a neutrosophic Failed SuperHyperClique. Since it doesn't have **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's a neutrosophic SuperHyperEdge to have a some SuperHyperVertices in common. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices $V_{ESHE} \cup \{z\}$ is the maximum neutrosophic cardinality of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices but it isn't a neutrosophic Failed SuperHyperClique. Since it **doesn't do** the neutrosophic procedure such that such that there's a neutrosophic SuperHyperEdge to have some neutrosophic SuperHyperVertices in common [there are at least one neutrosophic SuperHyperVertex outside implying there's, sometimes in the connected neutrosophic SuperHyperGraph $ESHG : (V, E)$, a neutrosophic SuperHyperVertex, titled its neutrosophic SuperHyperNeighbor, to that neutrosophic SuperHyperVertex in the neutrosophic SuperHyperSet S so as S doesn't do "the neutrosophic procedure"]. There's only **one** neutrosophic SuperHyperVertex **outside** the intended neutrosophic SuperHyperSet, $V_{ESHE} \cup \{z\}$, in the terms of neutrosophic SuperHyperNeighborhood. Thus the obvious neutrosophic Failed SuperHyperClique, V_{ESHE} is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, V_{ESHE} , **is** a neutrosophic SuperHyperSet, V_{ESHE} , **includes** only **all** neutrosophic SuperHyperVertices does forms any kind of neutrosophic pairs are titled neutrosophic SuperHyperNeighbors in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices V_{ESHE} , is the **maximum neutrosophic SuperHyperCardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices **such that** there's a neutrosophic SuperHyperEdge to have a neutrosophic SuperHyperVertex in common. Thus, a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. The

any neutrosophic Failed SuperHyperClique only contains all interior neutrosophic SuperHyperVertices and all exterior neutrosophic SuperHyperVertices from the unique neutrosophic SuperHyperEdge where there's any of them has all possible neutrosophic SuperHyperNeighbors in and there's all neutrosophic SuperHyperNeighborhoods in with no exception but everything is possible about neutrosophic SuperHyperNeighborhoods and neutrosophic SuperHyperNeighbors out.

To make sense with precise words in the terms of "Failed", the follow-up illustrations are coming up. The following neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique.

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

The neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. The neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a **neutrosophic Failed SuperHyperClique** $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is a neutrosophic type-SuperHyperSet with **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge amid some neutrosophic SuperHyperVertices given by **neutrosophic SuperHyperClique** is the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}).$$

There's not only **three** neutrosophic SuperHyperVertex **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious neutrosophic Failed SuperHyperClique is up. The obvious simple neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet **includes** only **three** neutrosophic SuperHyperVertices. But the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

doesn't have less than four SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet. Thus the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique **is** up. To sum them up, the neutrosophic SuperHyperSet of neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the non-obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique. Since the neutrosophic SuperHyperSet of the neutrosophic SuperHyperVertices,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is a neutrosophic Failed SuperHyperClique $\mathcal{C}(ESHG)$ for a neutrosophic SuperHyperGraph $ESHG : (V, E)$ is the neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique **and** it's a neutrosophic **Failed SuperHyperClique**. Since it's **the maximum neutrosophic cardinality** of a neutrosophic SuperHyperSet S of neutrosophic SuperHyperVertices such that there's no a neutrosophic SuperHyperEdge for some amount neutrosophic SuperHyperVertices given by that neutrosophic type-SuperHyperSet called the neutrosophic Failed SuperHyperClique. There isn't only less than four neutrosophic SuperHyperVertices **inside** the intended neutrosophic SuperHyperSet,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}.$$

Thus the non-obvious neutrosophic Failed SuperHyperClique,

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is up. The obvious simple neutrosophic type-SuperHyperSet of the neutrosophic Failed SuperHyperClique, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

is the neutrosophic SuperHyperSet, not:

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

does includes only less than four SuperHyperVertices in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$. It's interesting to mention that the only non-obvious simple neutrosophic type-SuperHyperSet called the

“neutrosophic Failed SuperHyperClique”

amid those obvious[non-obvious] simple neutrosophic type-SuperHyperSets called the

neutrosophic Failed SuperHyperClique,

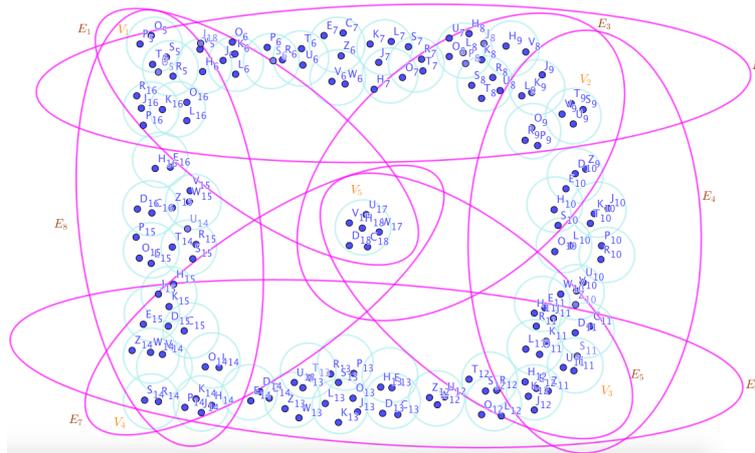


Figure 26. a neutrosophic SuperHyperWheel neutrosophic Associated to the neutrosophic Notions of neutrosophic Failed SuperHyperClique in the neutrosophic Example (28).

is only and only

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

in a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$ with a illustrated SuperHyperModeling. It's also, a neutrosophic free-triangle SuperHyperModel. But all only obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique amid those obvious simple neutrosophic type-SuperHyperSets of the neutrosophic Failed SuperHyperClique, are

$$(V \setminus V \setminus \{x, z\}) \cup \{xy\}$$

or

$$(V \setminus V \setminus \{x, z\}) \cup \{zy\}$$

In a connected neutrosophic SuperHyperGraph $ESHG : (V, E)$.

To sum them up, assume a connected neutrosophic SuperHyperWheel $ESHW : (V, E)$. Then a neutrosophic Failed SuperHyperClique is a neutrosophic SuperHyperSet of the interior neutrosophic SuperHyperVertices, not excluding the neutrosophic SuperHyperCenter, with only no exception in the form of interior neutrosophic SuperHyperVertices from same neutrosophic SuperHyperEdge with not the exclusion plus any plus one neutrosophic SuperHyperNeighbor to one. a neutrosophic Failed SuperHyperClique has the neutrosophic maximum number on all the neutrosophic number of all the neutrosophic SuperHyperEdges have common neutrosophic SuperHyperNeighbors inside for a neutrosophic SuperHyperVertex with the not exclusion plus any plus one neutrosophic SuperHyperNeighbor to one.

□

Example 28. In the neutrosophic Figure (26), the connected neutrosophic SuperHyperWheel $NSHW : (V, E)$, is neutrosophic highlighted and featured. The obtained neutrosophic SuperHyperSet, by the Algorithm in previous result, of the neutrosophic SuperHyperVertices of the connected neutrosophic SuperHyperWheel $ESHW : (V, E)$, corresponded to E_5, V_{E_6} , in the neutrosophic SuperHyperModel (26), is the neutrosophic Failed SuperHyperClique.

4. General neutrosophic Results

For the neutrosophic Failed SuperHyperClique, neutrosophic Failed SuperHyperClique, and the neutrosophic neutrosophic Failed SuperHyperClique, some general results are introduced.

Remark 29. Let remind that the neutrosophic neutrosophic Failed SuperHyperClique is “redefined” on the positions of the alphabets.

Corollary 30. Assume neutrosophic Failed SuperHyperClique. Then

$$\begin{aligned} & \text{Neutrosophic neutrosophicFailedSuperHyperClique} = \\ & \{ \text{the neutrosophicFailedSuperHyperClique of the SuperHyperVertices} | \\ & \max | \text{SuperHyperOffensiveSuperHyper} \\ & \text{Clique} |_{\text{neutrosophic cardinality amid those neutrosophicFailedSuperHyperClique.}} \} \end{aligned}$$

plus one SuperHyperNeighbor to one. Where σ_i is the unary operation on the SuperHyperVertices of the SuperHyperGraph to assign the determinacy, the indeterminacy and the neutrality, for $i = 1, 2, 3$, respectively.

Corollary 31. Assume a neutrosophic SuperHyperGraph on the same identical letter of the alphabet. Then the notion of neutrosophic neutrosophic Failed SuperHyperClique and neutrosophic Failed SuperHyperClique coincide.

Corollary 32. Assume a neutrosophic SuperHyperGraph on the same identical letter of the alphabet. Then a consecutive sequence of the SuperHyperVertices is a neutrosophic neutrosophic Failed SuperHyperClique if and only if it's a neutrosophic Failed SuperHyperClique.

Corollary 33. Assume a neutrosophic SuperHyperGraph on the same identical letter of the alphabet. Then a consecutive sequence of the SuperHyperVertices is a strongest SuperHyperCycle if and only if it's a longest SuperHyperCycle.

Corollary 34. Assume SuperHyperClasses of a neutrosophic SuperHyperGraph on the same identical letter of the alphabet. Then its neutrosophic neutrosophic Failed SuperHyperClique is its neutrosophic Failed SuperHyperClique and reversely.

Corollary 35. Assume a neutrosophic SuperHyperPath(-/SuperHyperCycle, SuperHyperStar, SuperHyperBipartite, SuperHyperMultipartite, SuperHyperWheel) on the same identical letter of the alphabet. Then its neutrosophic neutrosophic Failed SuperHyperClique is its neutrosophic Failed SuperHyperClique and reversely.

Corollary 36. Assume a neutrosophic SuperHyperGraph. Then its neutrosophic neutrosophic Failed SuperHyperClique isn't well-defined if and only if its neutrosophic Failed SuperHyperClique isn't well-defined.

Corollary 37. Assume SuperHyperClasses of a neutrosophic SuperHyperGraph. Then its neutrosophic neutrosophic Failed SuperHyperClique isn't well-defined if and only if its neutrosophic Failed SuperHyperClique isn't well-defined.

Corollary 38. Assume a neutrosophic SuperHyperPath(-/SuperHyperCycle, SuperHyperStar, SuperHyperBipartite, SuperHyperMultipartite, SuperHyperWheel). Then its neutrosophic neutrosophic Failed SuperHyperClique isn't well-defined if and only if its neutrosophic Failed SuperHyperClique isn't well-defined.

Corollary 39. Assume a neutrosophic SuperHyperGraph. Then its neutrosophic neutrosophic Failed SuperHyperClique is well-defined if and only if its neutrosophic Failed SuperHyperClique is well-defined.

Corollary 40. Assume SuperHyperClasses of a neutrosophic SuperHyperGraph. Then its neutrosophic Failed SuperHyperClique is well-defined if and only if its neutrosophic Failed SuperHyperClique is well-defined.

Corollary 41. Assume a neutrosophic SuperHyperPath(-/SuperHyperCycle, SuperHyperStar, SuperHyperBipartite, SuperHyperMultipartite, SuperHyperWheel). Then its neutrosophic Failed SuperHyperClique is well-defined if and only if its neutrosophic Failed SuperHyperClique is well-defined.

Proposition 42. Let ESHG : (V, E) be a neutrosophic SuperHyperGraph. Then V is

- (i) : the dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : the strong dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : the connected dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : the δ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : the strong δ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : the connected δ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 43. Let NTG : (V, E, σ, μ) be a neutrosophic SuperHyperGraph. Then \emptyset is

- (i) : the SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : the strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : the connected defensive SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : the δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : the strong δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : the connected δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 44. Let ESHG : (V, E) be a neutrosophic SuperHyperGraph. Then an independent SuperHyperSet is

- (i) : the SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : the strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : the connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : the δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : the strong δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : the connected δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 45. Let ESHG : (V, E) be a neutrosophic SuperHyperUniform SuperHyperGraph which is a SuperHyperCycle/SuperHyperPath. Then V is a maximal

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $\mathcal{O}(\text{ESHG})$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $\mathcal{O}(\text{ESHG})$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected $\mathcal{O}(\text{ESHG})$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;

Where the exterior SuperHyperVertices and the interior SuperHyperVertices coincide.

Proposition 46. Let ESHG : (V, E) be a neutrosophic SuperHyperGraph which is a SuperHyperUniform SuperHyperWheel. Then V is a maximal

- (i) : dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $\mathcal{O}(\text{ESHG})$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $\mathcal{O}(\text{ESHG})$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;

(vi) : connected $\mathcal{O}(\text{ESHG})$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;

Where the exterior SuperHyperVertices and the interior SuperHyperVertices coincide.

Proposition 47. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperUniform SuperHyperGraph which is a SuperHyperCycle/SuperHyperPath. Then the number of

- (i) : the neutrosophic Failed SuperHyperClique;
- (ii) : the neutrosophic Failed SuperHyperClique;
- (iii) : the connected neutrosophic Failed SuperHyperClique;
- (iv) : the $\mathcal{O}(\text{ESHG})$ -neutrosophic Failed SuperHyperClique;
- (v) : the strong $\mathcal{O}(\text{ESHG})$ -neutrosophic Failed SuperHyperClique;
- (vi) : the connected $\mathcal{O}(\text{ESHG})$ -neutrosophic Failed SuperHyperClique.

is one and it's only V . Where the exterior SuperHyperVertices and the interior SuperHyperVertices coincide.

Proposition 48. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperUniform SuperHyperGraph which is a SuperHyperWheel. Then the number of

- (i) : the dual neutrosophic Failed SuperHyperClique;
- (ii) : the dual neutrosophic Failed SuperHyperClique;
- (iii) : the dual connected neutrosophic Failed SuperHyperClique;
- (iv) : the dual $\mathcal{O}(\text{ESHG})$ -neutrosophic Failed SuperHyperClique;
- (v) : the strong dual $\mathcal{O}(\text{ESHG})$ -neutrosophic Failed SuperHyperClique;
- (vi) : the connected dual $\mathcal{O}(\text{ESHG})$ -neutrosophic Failed SuperHyperClique.

is one and it's only V . Where the exterior SuperHyperVertices and the interior SuperHyperVertices coincide.

Proposition 49. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperUniform SuperHyperGraph which is a SuperHyperStar/SuperHyperComplete SuperHyperBipartite/SuperHyperComplete SuperHyperMultipartite. Then a SuperHyperSet contains [the SuperHyperCenter and] the half of multiplying r with the number of all the SuperHyperEdges plus one of all the SuperHyperVertices is a

- (i) : dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $\frac{\mathcal{O}(\text{ESHG})}{2} + 1$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $\frac{\mathcal{O}(\text{ESHG})}{2} + 1$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected $\frac{\mathcal{O}(\text{ESHG})}{2} + 1$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 50. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperUniform SuperHyperGraph which is a SuperHyperStar/SuperHyperComplete SuperHyperBipartite/SuperHyperComplete SuperHyperMultipartite. Then a SuperHyperSet contains the half of multiplying r with the number of all the SuperHyperEdges plus one of all the SuperHyperVertices in the biggest SuperHyperPart is a

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected δ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 51. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperUniform SuperHyperGraph which is a SuperHyperStar/SuperHyperComplete SuperHyperBipartite/SuperHyperComplete SuperHyperMultipartite. Then Then the number of

- (i) : dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $\frac{\mathcal{O}(\text{ESHG})}{2} + 1$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $\frac{\mathcal{O}(\text{ESHG})}{2} + 1$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected $\frac{\mathcal{O}(\text{ESHG})}{2} + 1$ -dual SuperHyperDefensive neutrosophic Failed SuperHyperClique.

is one and it's only S , a SuperHyperSet contains [the SuperHyperCenter and] the half of multiplying r with the number of all the SuperHyperEdges plus one of all the SuperHyperVertices. Where the exterior SuperHyperVertices and the interior SuperHyperVertices coincide.

Proposition 52. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph. The number of connected component is $|V - S|$ if there's a SuperHyperSet which is a dual

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : neutrosophic Failed SuperHyperClique;
- (v) : strong 1-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected 1-SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 53. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph. Then the number is at most $\mathcal{O}(\text{ESHG})$ and the neutrosophic number is at most $\mathcal{O}_n(\text{ESHG})$.

Proposition 54. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph which is SuperHyperComplete. The number is $\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1$ and the neutrosophic number is $\min_{v \in \{v_1, v_2, \dots, v_i\}} \sum_{v \in \{v_1, v_2, \dots, v_i\}} \frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} \subseteq V \sigma(v)$, in the setting of dual

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $(\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $(\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected $(\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 55. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph which is \emptyset . The number is 0 and the neutrosophic number is 0, for an independent SuperHyperSet in the setting of dual

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : 0-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong 0-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected 0-SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 56. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph which is SuperHyperComplete. Then there's no independent SuperHyperSet.

Proposition 57. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph which is SuperHyperCycle/SuperHyperPath/SuperHyperWheel. The number is $\mathcal{O}(\text{ESHG} : (V, E))$ and the neutrosophic number is $\mathcal{O}_n(\text{ESHG} : (V, E))$, in the setting of a dual

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;

- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $\mathcal{O}(\text{ESHG} : (V, E))$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $\mathcal{O}(\text{ESHG} : (V, E))$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected $\mathcal{O}(\text{ESHG} : (V, E))$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 58. Let $\text{ESHG} : (V, E)$ be a neutrosophic SuperHyperGraph which is SuperHyperStar/complete SuperHyperBipartite/complete SuperHyperMultiPartite. The number is $\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1$ and the neutrosophic number is $\min \sum_{v \in \{v_1, v_2, \dots, v_t\}} \frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} \subseteq V \sigma(v)$, in the setting of a dual

- (i) : SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) : strong SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) : connected SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) : $(\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (v) : strong $(\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (vi) : connected $(\frac{\mathcal{O}(\text{ESHG}:(V,E))}{2} + 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 59. Let $\mathcal{NSHF} : (V, E)$ be a SuperHyperFamily of the $\text{ESHGs} : (V, E)$ neutrosophic SuperHyperGraphs which are from one-type SuperHyperClass which the result is obtained for the individuals. Then the results also hold for the SuperHyperFamily $\mathcal{NSHF} : (V, E)$ of these specific SuperHyperClasses of the neutrosophic SuperHyperGraphs.

Proposition 60. Let $\text{ESHG} : (V, E)$ be a strong neutrosophic SuperHyperGraph. If S is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique, then $\forall v \in V \setminus S, \exists x \in S$ such that

- (i) $v \in N_s(x)$;
- (ii) $vx \in E$.

Proposition 61. Let $\text{ESHG} : (V, E)$ be a strong neutrosophic SuperHyperGraph. If S is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique, then

- (i) S is SuperHyperDominating set;
- (ii) there's $S \subseteq S'$ such that $|S'|$ is SuperHyperChromatic number.

Proposition 62. Let $\text{ESHG} : (V, E)$ be a strong neutrosophic SuperHyperGraph. Then

- (i) $\Gamma \leq \mathcal{O}$;
- (ii) $\Gamma_s \leq \mathcal{O}_n$.

Proposition 63. Let $\text{ESHG} : (V, E)$ be a strong neutrosophic SuperHyperGraph which is connected. Then

- (i) $\Gamma \leq \mathcal{O} - 1$;
- (ii) $\Gamma_s \leq \mathcal{O}_n - \sum_{i=1}^3 \sigma_i(x)$.

Proposition 64. Let $\text{ESHG} : (V, E)$ be an odd SuperHyperPath. Then

- (i) the SuperHyperSet $S = \{v_2, v_4, \dots, v_{n-1}\}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor + 1$ and corresponded SuperHyperSet is $S = \{v_2, v_4, \dots, v_{n-1}\}$;
- (iii) $\Gamma_s = \min \{ \sum_{s \in S = \{v_2, v_4, \dots, v_{n-1}\}} \sum_{i=1}^3 \sigma_i(s), \sum_{s \in S = \{v_1, v_3, \dots, v_{n-1}\}} \sum_{i=1}^3 \sigma_i(s) \}$;
- (iv) the SuperHyperSets $S_1 = \{v_2, v_4, \dots, v_{n-1}\}$ and $S_2 = \{v_1, v_3, \dots, v_{n-1}\}$ are only a dual neutrosophic Failed SuperHyperClique.

Proposition 65. Let $\text{ESHG} : (V, E)$ be an even SuperHyperPath. Then

- (i) the set $S = \{v_2, v_4, \dots, v_n\}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;

- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor$ and corresponded SuperHyperSets are $\{v_2, v_4, \dots, v_n\}$ and $\{v_1, v_3, \dots, v_{n-1}\}$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S = \{v_2, v_4, \dots, v_n\}} \sum_{i=1}^3 \sigma_i(s), \sum_{s \in S = \{v_1, v_3, \dots, v_{n-1}\}} \sum_{i=1}^3 \sigma_i(s)\}$;
- (iv) the SuperHyperSets $S_1 = \{v_2, v_4, \dots, v_n\}$ and $S_2 = \{v_1, v_3, \dots, v_{n-1}\}$ are only dual neutrosophic Failed SuperHyperClique.

Proposition 66. Let ESHG : (V, E) be an even SuperHyperCycle. Then

- (i) the SuperHyperSet $S = \{v_2, v_4, \dots, v_n\}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor$ and corresponded SuperHyperSets are $\{v_2, v_4, \dots, v_n\}$ and $\{v_1, v_3, \dots, v_{n-1}\}$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S = \{v_2, v_4, \dots, v_n\}} \sigma(s), \sum_{s \in S = \{v_1, v_3, \dots, v_{n-1}\}} \sigma(s)\}$;
- (iv) the SuperHyperSets $S_1 = \{v_2, v_4, \dots, v_n\}$ and $S_2 = \{v_1, v_3, \dots, v_{n-1}\}$ are only dual neutrosophic Failed SuperHyperClique.

Proposition 67. Let ESHG : (V, E) be an odd SuperHyperCycle. Then

- (i) the SuperHyperSet $S = \{v_2, v_4, \dots, v_{n-1}\}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor + 1$ and corresponded SuperHyperSet is $S = \{v_2, v_4, \dots, v_{n-1}\}$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S = \{v_2, v_4, \dots, v_{n-1}\}} \sum_{i=1}^3 \sigma_i(s), \sum_{s \in S = \{v_1, v_3, \dots, v_{n-1}\}} \sum_{i=1}^3 \sigma_i(s)\}$;
- (iv) the SuperHyperSets $S_1 = \{v_2, v_4, \dots, v_{n-1}\}$ and $S_2 = \{v_1, v_3, \dots, v_{n-1}\}$ are only dual neutrosophic Failed SuperHyperClique.

Proposition 68. Let ESHG : (V, E) be SuperHyperStar. Then

- (i) the SuperHyperSet $S = \{c\}$ is a dual maximal neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = 1$;
- (iii) $\Gamma_s = \sum_{i=1}^3 \sigma_i(c)$;
- (iv) the SuperHyperSets $S = \{c\}$ and $S \subset S'$ are only dual neutrosophic Failed SuperHyperClique.

Proposition 69. Let ESHG : (V, E) be SuperHyperWheel. Then

- (i) the SuperHyperSet $S = \{v_1, v_3\} \cup \{v_6, v_9, \dots, v_{i+6}, \dots, v_n\}_{i=1}^{6+3(i-1) \leq n}$ is a dual maximal SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = |\{v_1, v_3\} \cup \{v_6, v_9, \dots, v_{i+6}, \dots, v_n\}_{i=1}^{6+3(i-1) \leq n}|$;
- (iii) $\Gamma_s = \sum_{\{v_1, v_3\} \cup \{v_6, v_9, \dots, v_{i+6}, \dots, v_n\}_{i=1}^{6+3(i-1) \leq n}} \sum_{i=1}^3 \sigma_i(s)$;
- (iv) the SuperHyperSet $\{v_1, v_3\} \cup \{v_6, v_9, \dots, v_{i+6}, \dots, v_n\}_{i=1}^{6+3(i-1) \leq n}$ is only a dual maximal SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 70. Let ESHG : (V, E) be an odd SuperHyperComplete. Then

- (i) the SuperHyperSet $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor + 1}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor + 1$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S} \sum_{i=1}^3 \sigma_i(s)\}_{S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor + 1}}$;
- (iv) the SuperHyperSet $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor + 1}$ is only a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 71. Let ESHG : (V, E) be an even SuperHyperComplete. Then

- (i) the SuperHyperSet $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S} \sum_{i=1}^3 \sigma_i(s)\}_{S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor}}$;

(iv) the SuperHyperSet $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor}$ is only a dual maximal SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 72. Let $\mathcal{NSHF} : (V, E)$ be a m -SuperHyperFamily of neutrosophic SuperHyperStars with common neutrosophic SuperHyperVertex SuperHyperSet. Then

- (i) the SuperHyperSet $S = \{c_1, c_2, \dots, c_m\}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique for \mathcal{NSHF} ;
- (ii) $\Gamma = m$ for $\mathcal{NSHF} : (V, E)$;
- (iii) $\Gamma_s = \sum_{i=1}^m \sum_{j=1}^3 \sigma_j(c_i)$ for $\mathcal{NSHF} : (V, E)$;
- (iv) the SuperHyperSets $S = \{c_1, c_2, \dots, c_m\}$ and $S \subset S'$ are only dual neutrosophic Failed SuperHyperClique for $\mathcal{NSHF} : (V, E)$.

Proposition 73. Let $\mathcal{NSHF} : (V, E)$ be an m -SuperHyperFamily of odd SuperHyperComplete SuperHyperGraphs with common neutrosophic SuperHyperVertex SuperHyperSet. Then

- (i) the SuperHyperSet $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor + 1}$ is a dual maximal SuperHyperDefensive neutrosophic Failed SuperHyperClique for \mathcal{NSHF} ;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor + 1$ for $\mathcal{NSHF} : (V, E)$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S} \sum_{i=1}^3 \sigma_i(s)\}_{S=\{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor + 1}}$ for $\mathcal{NSHF} : (V, E)$;
- (iv) the SuperHyperSets $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor + 1}$ are only a dual maximal neutrosophic Failed SuperHyperClique for $\mathcal{NSHF} : (V, E)$.

Proposition 74. Let $\mathcal{NSHF} : (V, E)$ be a m -SuperHyperFamily of even SuperHyperComplete SuperHyperGraphs with common neutrosophic SuperHyperVertex SuperHyperSet. Then

- (i) the SuperHyperSet $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor}$ is a dual SuperHyperDefensive neutrosophic Failed SuperHyperClique for $\mathcal{NSHF} : (V, E)$;
- (ii) $\Gamma = \lfloor \frac{n}{2} \rfloor$ for $\mathcal{NSHF} : (V, E)$;
- (iii) $\Gamma_s = \min\{\sum_{s \in S} \sum_{i=1}^3 \sigma_i(s)\}_{S=\{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor}}$ for $\mathcal{NSHF} : (V, E)$;
- (iv) the SuperHyperSets $S = \{v_i\}_{i=1}^{\lfloor \frac{n}{2} \rfloor}$ are only dual maximal neutrosophic Failed SuperHyperClique for $\mathcal{NSHF} : (V, E)$.

Proposition 75. Let $ESHG : (V, E)$ be a strong neutrosophic SuperHyperGraph. Then following statements hold;

- (i) if $s \geq t$ and a SuperHyperSet S of SuperHyperVertices is an t -SuperHyperDefensive neutrosophic Failed SuperHyperClique, then S is an s -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) if $s \leq t$ and a SuperHyperSet S of SuperHyperVertices is a dual t -SuperHyperDefensive neutrosophic Failed SuperHyperClique, then S is a dual s -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 76. Let $ESHG : (V, E)$ be a strong neutrosophic SuperHyperGraph. Then following statements hold;

- (i) if $s \geq t + 2$ and a SuperHyperSet S of SuperHyperVertices is an t -SuperHyperDefensive neutrosophic Failed SuperHyperClique, then S is an s -SuperHyperPowerful neutrosophic Failed SuperHyperClique;
- (ii) if $s \leq t$ and a SuperHyperSet S of SuperHyperVertices is a dual t -SuperHyperDefensive neutrosophic Failed SuperHyperClique, then S is a dual s -SuperHyperPowerful neutrosophic Failed SuperHyperClique.

Proposition 77. Let $ESHG : (V, E)$ be a $[an] [r-]$ SuperHyperUniform-strong-neutrosophic SuperHyperGraph. Then following statements hold;

- (i) if $\forall a \in S, |N_s(a) \cap S| < \lfloor \frac{r}{2} \rfloor + 1$, then $ESHG : (V, E)$ is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) if $\forall a \in V \setminus S, |N_s(a) \cap S| > \lfloor \frac{r}{2} \rfloor + 1$, then $ESHG : (V, E)$ is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) if $\forall a \in S, |N_s(a) \cap V \setminus S| = 0$, then $ESHG : (V, E)$ is an r -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) if $\forall a \in V \setminus S, |N_s(a) \cap V \setminus S| = 0$, then $ESHG : (V, E)$ is a dual r -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 78. Let $ESHG : (V, E)$ is a[an] $[r]$ -SuperHyperUniform-strong-neutrosophic SuperHyperGraph. Then following statements hold;

- (i) $\forall a \in S, |N_s(a) \cap S| < \lfloor \frac{r}{2} \rfloor + 1$ if $ESHG : (V, E)$ is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\forall a \in V \setminus S, |N_s(a) \cap S| > \lfloor \frac{r}{2} \rfloor + 1$ if $ESHG : (V, E)$ is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) $\forall a \in S, |N_s(a) \cap V \setminus S| = 0$ if $ESHG : (V, E)$ is an r -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) $\forall a \in V \setminus S, |N_s(a) \cap V \setminus S| = 0$ if $ESHG : (V, E)$ is a dual r -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 79. Let $ESHG : (V, E)$ is a[an] $[r]$ -SuperHyperUniform-strong-neutrosophic SuperHyperGraph which is a SuperHyperComplete. Then following statements hold;

- (i) $\forall a \in S, |N_s(a) \cap S| < \lfloor \frac{\mathcal{O}-1}{2} \rfloor + 1$ if $ESHG : (V, E)$ is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\forall a \in V \setminus S, |N_s(a) \cap S| > \lfloor \frac{\mathcal{O}-1}{2} \rfloor + 1$ if $ESHG : (V, E)$ is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) $\forall a \in S, |N_s(a) \cap V \setminus S| = 0$ if $ESHG : (V, E)$ is an $(\mathcal{O} - 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) $\forall a \in V \setminus S, |N_s(a) \cap V \setminus S| = 0$ if $ESHG : (V, E)$ is a dual $(\mathcal{O} - 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 80. Let $ESHG : (V, E)$ is a[an] $[r]$ -SuperHyperUniform-strong-neutrosophic SuperHyperGraph which is a SuperHyperComplete. Then following statements hold;

- (i) if $\forall a \in S, |N_s(a) \cap S| < \lfloor \frac{\mathcal{O}-1}{2} \rfloor + 1$, then $ESHG : (V, E)$ is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) if $\forall a \in V \setminus S, |N_s(a) \cap S| > \lfloor \frac{\mathcal{O}-1}{2} \rfloor + 1$, then $ESHG : (V, E)$ is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) if $\forall a \in S, |N_s(a) \cap V \setminus S| = 0$, then $ESHG : (V, E)$ is $(\mathcal{O} - 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) if $\forall a \in V \setminus S, |N_s(a) \cap V \setminus S| = 0$, then $ESHG : (V, E)$ is a dual $(\mathcal{O} - 1)$ -SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 81. Let $ESHG : (V, E)$ is a[an] $[r]$ -SuperHyperUniform-strong-neutrosophic SuperHyperGraph which is SuperHyperCycle. Then following statements hold;

- (i) $\forall a \in S, |N_s(a) \cap S| < 2$ if $ESHG : (V, E)$ is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) $\forall a \in V \setminus S, |N_s(a) \cap S| > 2$ if $ESHG : (V, E)$ is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) $\forall a \in S, |N_s(a) \cap V \setminus S| = 0$ if $ESHG : (V, E)$ is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;

(iv) $\forall a \in V \setminus S, |N_s(a) \cap V \setminus S| = 0$ if ESHG : (V, E) is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique.

Proposition 82. Let ESHG : (V, E) is a[an] [r-]SuperHyperUniform-strong-neutrosophic SuperHyperGraph which is SuperHyperCycle. Then following statements hold;

- (i) if $\forall a \in S, |N_s(a) \cap S| < 2$, then ESHG : (V, E) is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (ii) if $\forall a \in V \setminus S, |N_s(a) \cap S| > 2$, then ESHG : (V, E) is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iii) if $\forall a \in S, |N_s(a) \cap V \setminus S| = 0$, then ESHG : (V, E) is an 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique;
- (iv) if $\forall a \in V \setminus S, |N_s(a) \cap V \setminus S| = 0$, then ESHG : (V, E) is a dual 2-SuperHyperDefensive neutrosophic Failed SuperHyperClique.

5. Neutrosophic Problems and Neutrosophic Questions

In what follows, some “Neutrosophic problems” and some “Neutrosophic questions” are Neutrosophically proposed.

The Failed SuperHyperClique and the neutrosophic Failed SuperHyperClique are Neutrosophically defined on a real-world Neutrosophic application, titled “Cancer’s neutrosophic recognitions”.

Question 83. Which the else neutrosophic SuperHyperModels could be defined based on Cancer’s neutrosophic recognitions?

Question 84. Are there some neutrosophic SuperHyperNotions related to Failed SuperHyperClique and the neutrosophic Failed SuperHyperClique?

Question 85. Are there some Neutrosophic Algorithms to be defined on the neutrosophic SuperHyperModels to compute them Neutrosophically?

Question 86. Which the neutrosophic SuperHyperNotions are related to beyond the Failed SuperHyperClique and the neutrosophic Failed SuperHyperClique?

Problem 87. The Failed SuperHyperClique and the neutrosophic Failed SuperHyperClique do Neutrosophically a neutrosophic SuperHyperModel for the Cancer’s neutrosophic recognitions and they’re based Neutrosophically on neutrosophic Failed SuperHyperClique, are there else Neutrosophically?

Problem 88. Which the fundamental Neutrosophic SuperHyperNumbers are related to these Neutrosophic SuperHyperNumbers types-results?

Problem 89. What’s the independent research based on Cancer’s neutrosophic recognitions concerning the multiple types of neutrosophic SuperHyperNotions?

References

1. Henry Garrett, “Properties of SuperHyperGraph and Neutrosophic SuperHyperGraph”, Neutrosophic Sets and Systems 49 (2022) 531-561 (doi: 10.5281/zenodo.6456413). (<http://fs.unm.edu/NSS/NeutrosophicSuperHyperGraph34.pdf>). (https://digitalrepository.unm.edu/nss_journal/vol49/iss1/34).
2. Henry Garrett, “Neutrosophic Co-degree and Neutrosophic Degree alongside Chromatic Numbers in the Setting of Some Classes Related to Neutrosophic Hypergraphs”, J Curr Trends Comp Sci Res 1(1) (2022) 06-14.
3. Henry Garrett, “Super Hyper Dominating and Super Hyper Resolving on Neutrosophic Super Hyper Graphs and Their Directions in Game Theory and Neutrosophic Super Hyper Classes”, J Math Techniques Comput Math 1(3) (2022) 242-263.

4. Garrett, Henry. "0039 | Closing Numbers and Super-Closing Numbers as (Dual)Resolving and (Dual)Coloring alongside (Dual)Dominating in (Neutrosophic)n-SuperHyperGraph." CERN European Organization for Nuclear Research - Zenodo, Nov. 2022. CERN European Organization for Nuclear Research, <https://doi.org/10.5281/zenodo.6319942>. <https://oa.mg/work/10.5281/zenodo.6319942>
5. Garrett, Henry. "0049 | (Failed)1-Zero-Forcing Number in Neutrosophic Graphs." CERN European Organization for Nuclear Research - Zenodo, Feb. 2022. CERN European Organization for Nuclear Research, <https://doi.org/10.13140/rg.2.2.35241.26724>. <https://oa.mg/work/10.13140/rg.2.2.35241.26724>
6. Henry Garrett, "Neutrosophic Failed SuperHyperStable as the Survivors on the Cancer's Neutrosophic Recognition Based on Uncertainty to All Modes in Neutrosophic SuperHyperGraphs", Preprints 2023, 2023010240 (doi: 10.20944/preprints202301.0240.v1).
7. Henry Garrett, "Extremism of the Attacked Body Under the Cancer's Circumstances Where Cancer's Recognition Titled (Neutrosophic) SuperHyperGraphs", Preprints 2023, 2023010224, (doi: 10.20944/preprints202301.0224.v1).
8. Henry Garrett, "(Neutrosophic) 1-Failed SuperHyperForcing in Cancer's Recognitions And (Neutrosophic) SuperHyperGraphs", Preprints 2023, 2023010105 (doi: 10.20944/preprints202301.0105.v1).
9. Henry Garrett, "Neutrosophic Messy-Style SuperHyperGraphs To Form Neutrosophic SuperHyperStable To Act on Cancer's Neutrosophic Recognitions In Special ViewPoints", Preprints 2023, 2023010088 (doi: 10.20944/preprints202301.0088.v1).
10. Henry Garrett, "Neutrosophic 1-Failed SuperHyperForcing in the SuperHyperFunction To Use Neutrosophic SuperHyperGraphs on Cancer's Neutrosophic Recognition And Beyond", Preprints 2023, 2023010044
11. Henry Garrett, "(Neutrosophic) SuperHyperStable on Cancer's Recognition by Well- SuperHyperModelled (Neutrosophic) SuperHyperGraphs", Preprints 2023, 2023010043 (doi: 10.20944/preprints202301.0043.v1).
12. Henry Garrett, "Basic Notions on (Neutrosophic) SuperHyperForcing And (Neutrosophic) SuperHyperModeling in Cancer's Recognitions And (Neutrosophic) SuperHyperGraphs", Preprints 2023, 2023010105 (doi: 10.20944/preprints202301.0105.v1).
13. Henry Garrett, "Neutrosophic Messy-Style SuperHyperGraphs To Form Neutrosophic SuperHyperStable To Act on Cancer's Neutrosophic Recognitions In Special ViewPoints", Preprints 2023, 2023010088 (doi: 10.20944/preprints202301.0088.v1).
14. Henry Garrett, "(Neutrosophic) SuperHyperModeling of Cancer's Recognitions Featuring (Neutrosophic) SuperHyperDefensive SuperHyperAlliances", Preprints 2022, 2022120549 (doi: 10.20944/preprints202212.0549.v1).
15. Henry Garrett, "(Neutrosophic) SuperHyperAlliances With SuperHyperDefensive and SuperHyperOffensive Type-SuperHyperSet On (Neutrosophic) SuperHyperGraph With (Neutrosophic) SuperHyperModeling of Cancer's Recognitions And Related (Neutrosophic) SuperHyperClasses", Preprints 2022, 2022120540 (doi: 10.20944/preprints202212.0540.v1).
16. Henry Garrett, "SuperHyperGirth on SuperHyperGraph and Neutrosophic SuperHyperGraph With SuperHyperModeling of Cancer's Recognitions", Preprints 2022, 2022120500 (doi: 10.20944/preprints202212.0500.v1).
17. Henry Garrett, "Some SuperHyperDegrees and Co-SuperHyperDegrees on Neutrosophic SuperHyperGraphs and SuperHyperGraphs Alongside Applications in Cancer's Treatments", Preprints 2022, 2022120324 (doi: 10.20944/preprints202212.0324.v1).
18. Henry Garrett, "SuperHyperDominating and SuperHyperResolving on Neutrosophic SuperHyperGraphs And Their Directions in Game Theory and Neutrosophic SuperHyperClasses", Preprints 2022, 2022110576 (doi: 10.20944/preprints202211.0576.v1).
19. Henry Garrett, "Extreme Failed SuperHyperClique Decides the Failures on the Cancer's Recognition in the Perfect Connections of Cancer's Attacks By SuperHyperModels Named (Neutrosophic) SuperHyperGraphs", ResearchGate 2023, (doi: 10.13140/RG.2.2.32530.73922).
20. Henry Garrett, "Indeterminacy On The All Possible Connections of Cells In Front of Cancer's Attacks In The Terms of Neutrosophic Failed SuperHyperClique on Cancer's Recognition called Neutrosophic SuperHyperGraphs", ResearchGate 2023, (doi: 10.13140/RG.2.2.15897.70243).
21. Henry Garrett, "Perfect Directions Toward Idealism in Cancer's Neutrosophic Recognition Forwarding Neutrosophic SuperHyperClique on Neutrosophic SuperHyperGraphs", ResearchGate 2023, (doi: 10.13140/RG.2.2.30092.80004).

22. Henry Garrett, "Demonstrating Complete Connections in Every Embedded Regions and Sub-Regions in the Terms of Cancer's Recognition and (Neutrosophic) SuperHyperGraphs With (Neutrosophic) SuperHyperClique", ResearchGate 2023, (doi: 10.13140/RG.2.2.23172.19849).
23. Henry Garrett, "Different Neutrosophic Types of Neutrosophic Regions titled neutrosophic Failed SuperHyperStable in Cancer's Neutrosophic Recognition modeled in the Form of Neutrosophic SuperHyperGraphs", ResearchGate 2023, (doi: 10.13140/RG.2.2.17385.36968).
24. Henry Garrett, "Using the Tool As (Neutrosophic) Failed SuperHyperStable To SuperHyperModel Cancer's Recognition Titled (Neutrosophic) SuperHyperGraphs", ResearchGate 2023, (doi: 10.13140/RG.2.2.28945.92007).
25. Henry Garrett, "Neutrosophic Messy-Style SuperHyperGraphs To Form Neutrosophic SuperHyperStable To Act on Cancer's Neutrosophic Recognitions In Special ViewPoints", ResearchGate 2023, (doi: 10.13140/RG.2.2.11447.80803).
26. Henry Garrett, "(Neutrosophic) SuperHyperStable on Cancer's Recognition by Well-SuperHyperModelled (Neutrosophic) SuperHyperGraphs", ResearchGate 2023, (doi: 10.13140/RG.2.2.35774.77123).
27. Henry Garrett, "Neutrosophic 1-Failed SuperHyperForcing in the SuperHyperFunction To Use Neutrosophic SuperHyperGraphs on Cancer's Neutrosophic Recognition And Beyond", ResearchGate 2022, (doi: 10.13140/RG.2.2.36141.77287).
28. Henry Garrett, "(Neutrosophic) 1-Failed SuperHyperForcing in Cancer's Recognitions And (Neutrosophic) SuperHyperGraphs", ResearchGate 2022, (doi: 10.13140/RG.2.2.29430.88642).
29. Henry Garrett, "Basic Notions on (Neutrosophic) SuperHyperForcing And (Neutrosophic) SuperHyperModeling in Cancer's Recognitions And (Neutrosophic) SuperHyperGraphs", ResearchGate 2022, (doi: 10.13140/RG.2.2.11369.16487).
30. Henry Garrett, "Basic Neutrosophic Notions Concerning SuperHyperDominating and Neutrosophic SuperHyperResolving in SuperHyperGraph", ResearchGate 2022 (doi: 10.13140/RG.2.2.29173.86244).
31. Henry Garrett, "Initial Material of Neutrosophic Preliminaries to Study Some Neutrosophic Notions Based on Neutrosophic SuperHyperEdge (NSHE) in Neutrosophic SuperHyperGraph (NSHG)", ResearchGate 2022 (doi: 10.13140/RG.2.2.25385.88160).
32. Henry Garrett, (2022). "Beyond Neutrosophic Graphs", Ohio: E-publishing: Educational Publisher 1091 West 1st Ave Grandview Heights, Ohio 43212 United States. ISBN: 979-1-59973-725-6 (<http://fs.unm.edu/BeyondNeutrosophicGraphs.pdf>).
33. Henry Garrett, (2022). "Neutrosophic Duality", Florida: GLOBAL KNOWLEDGE - Publishing House 848 Brickell Ave Ste 950 Miami, Florida 33131 United States. ISBN: 978-1-59973-743-0 (<http://fs.unm.edu/NeutrosophicDuality.pdf>).
34. F. Smarandache, "Extension of HyperGraph to n-SuperHyperGraph and to Plithogenic n-SuperHyperGraph, and Extension of HyperAlgebra to n-ary (Classical-/Neuro-/Anti-) HyperAlgebra", Neutrosophic Sets and Systems 33 (2020) 290-296. (doi: 10.5281/zenodo.3783103).
35. M. Akram et al., "Single-valued neutrosophic Hypergraphs", TWMS J. App. Eng. Math. 8 (1) (2018) 122-135.
36. S. Broumi et al., "Single-valued neutrosophic graphs", Journal of New Theory 10 (2016) 86-101.
37. H. Wang et al., "Single-valued neutrosophic sets", Multispace and Multistructure 4 (2010) 410-413.
38. H.T. Nguyen and E.A. Walker, "A First course in fuzzy logic", CRC Press, 2006.
39. M. Akram, and G. Shahzadi, "Operations on Single-Valued Neutrosophic Graphs", Journal of uncertain systems 11 (1) (2017) 1-26.
40. G. Argiroffo et al., "Polyhedra associated with locating-dominating, open locating-dominating and locating total-dominating sets in graphs", Discrete Applied Mathematics (2022). (<https://doi.org/10.1016/j.dam.2022.06.025>).
41. L. Aronshtam, and H. Ilani, "Bounds on the average and minimum attendance in preference-based activity scheduling", Discrete Applied Mathematics 306 (2022) 114-119. (<https://doi.org/10.1016/j.dam.2021.09.024>).
42. J. Asplund et al., "A Vizing-type result for semi-total domination", Discrete Applied Mathematics 258 (2019) 8-12. (<https://doi.org/10.1016/j.dam.2018.11.023>).
43. K. Atanassov, "Intuitionistic fuzzy sets", Fuzzy Sets Syst. 20 (1986) 87-96.
44. R.A. Beeler et al., "Total domination cover rubbing", Discrete Applied Mathematics 283 (2020) 133-141. (<https://doi.org/10.1016/j.dam.2019.12.020>).
45. S. Bermudo et al., "On the global total k-domination number of graphs", Discrete Applied Mathematics 263 (2019) 42-50. (<https://doi.org/10.1016/j.dam.2018.05.025>).

46. M. Bold, and M. Goerigk, "Investigating the recoverable robust single machine scheduling problem under interval uncertainty", *Discrete Applied Mathematics* 313 (2022) 99-114. (<https://doi.org/10.1016/j.dam.2022.02.005>.)
47. S. Broumi et al., "Single-valued neutrosophic graphs", *Journal of New Theory* 10 (2016) 86-101.
48. V. Gledel et al., "Maker–Breaker total domination game", *Discrete Applied Mathematics* 282 (2020) 96-107. (<https://doi.org/10.1016/j.dam.2019.11.004>.)
49. M.A. Henning, and A. Yeo, "A new upper bound on the total domination number in graphs with minimum degree six", *Discrete Applied Mathematics* 302 (2021) 1-7. (<https://doi.org/10.1016/j.dam.2021.05.033>.)
50. V. Irsic, "Effect of predomination and vertex removal on the game total domination number of a graph", *Discrete Applied Mathematics* 257 (2019) 216-225. (<https://doi.org/10.1016/j.dam.2018.09.011>.)
51. B.S. Panda, and P. Goyal, "Hardness results of global total k -domination problem in graphs", *Discrete Applied Mathematics* (2021). (<https://doi.org/10.1016/j.dam.2021.02.018>.)
52. N. Shah, and A. Hussain, "Neutrosophic soft graphs", *Neutrosophic Set and Systems* 11 (2016) 31-44.
53. A. Shannon and K.T. Atanassov, "A first step to a theory of the intuitionistic fuzzy graphs", *Proceeding of FUBEST* (Lakov, D., Ed.) Sofia (1994) 59-61.
54. F. Smarandache, "A Unifying field in logics neutrosophy: Neutrosophic probability, set and logic, Rehoboth: " American Research Press (1998).
55. H. Wang et al., "Single-valued neutrosophic sets", *Multispace and Multistructure* 4 (2010) 410-413.
56. L. A. Zadeh, "Fuzzy sets", *Information and Control* 8 (1965) 338-354.