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Reciprocal floor function is used in algebraic structures to extend the complex logarithmic neutrosophic set using averaging and geometric operators

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Abstract. This work presents a new method for creating complex logarithmic reciprocal floor function neutrosophic sets. This article will cover generalized weighted averaging, generalized weighted geometric, geometric, and complex logarithmic neutrosophic weighted averaging. The weighted average and geometric were computed using an aggregating model. To further examine a number of sets with important qualities, the algebraic techniques listed below will be applied.

Keywords: Reciprocal floor function, weighted averaging, weighted geometric, generalized weighted averaging, generalized weighted geometric.

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1. **Introduction**

Many theories have been proposed to explain uncertainty, including fuzzy sets (FS), which have membership degrees (MD) ranging from zero to one. For $\iota, \varsigma \in [0,1]$, an intuitionistic FS (IFS) was built with each element having two MDs: positive ι and negative ς, and $0 \preccurlyeq \iota+\varsigma \preccurlyeq 1$ by Atanassov. Developed by Yager, the Pythagorean FSs (PFS) concept is characterized by its MD and non-MD (NMD) with $\iota+\varsigma \succcurlyeq 1$ to $\iota^2+\varsigma^2 \preccurlyeq 1$. Numerous studies have examined the use of IFSs and PFSs in various fields. Their ability to communicate information is still restricted. Because of this, the experts were still having trouble interpreting the data in these sets and the associated data. Wang et al. [1] investigated the concept of complex IFS with DOMBI prioritized AOs and its application for trustworthy green supplier selection. Cuong et al. [2], the three primary ideas of the picture FS are positive MD (ι), neutral MD (ρ), and negative MD (ς). Additionally, it offers greater benefits than PFS and IFS. Since $\iota, \rho, \varsigma \in [0,1]$, it has been noted that the picture FS is an upgrade of the IFS that may handle more inconsistency and $0 \preccurlyeq \iota + \rho + \varsigma \preccurlyeq 1$. According on the picture FS description, expert comments like "yes," "abstain," "no," and "refusal" will be supplied.

Shahzaib et al. [3] defined the SFS for certain AOs using MADM. SFS requires that $0 \preccurlyeq \iota^2 + \rho^2 + \varsigma^2 \preccurlyeq 1$ be used in place of $0 \preccurlyeq \iota + \rho + \varsigma \preccurlyeq 1$. Hussain et al. first proposed the concept of an intelligent decision support system for SFS [4]. SFSs and their applications in DM were initially presented by Rafiq et al. [5]. For instance, a DM problem with a property is $\iota^2 + \varsigma^2 \succcurlyeq 1$. Senapati et al. [6] invented Fermatean FS (FFS) in 2019 with the condition that $0 \preccurlyeq \iota^3 + \varsigma^3 \preccurlyeq 1$. The concept of generalized orthopair FSs was initially proposed by Yager [7]. In the q-rung orthogonal pair FS (q-ROFS), both the MD and the NMD have power q; nonetheless, their sum can never be more than one. Palanikumar et al. introduced the MADM approach for Pythagorean neutrosophic normal interval-valued fuzzy AOs [8]. Based on IFSs, Xu et al. created geometric operators, such as weighted, ordered weighted, and hybrid operators [9]. Li et al. [10] proposed generalized ordered weighted averaging operators (GOWs) in 2002. Using AOs and distance measurements, Zeng et al. [11] described how to calculate ordered weighted distances. Peng et al. examined a basic PFS based on the characteristics of AOs [12]. Dombi AOs were developed by spherical fuzzy Ashraf and associates [13]. Additionally, Ullah et al. [14, 15] offer more details on SFSs and T-SFSs. Using a variety of AOs.

2. **Operations for CLOGRFFNN**

Assuming f is a fractional part function, the fractional part of $\flat$, where $\flat$ is a real number, may be written as follows: $\mathcal{H}[\flat] = \lfloor \flat \rfloor = \flat - \{\flat\}$ as well. It is also possible to describe the difference between a real number and its highest integer value, which is found using the greatest integer function, as a fractional part function. The fractional component of $\flat = 0$ if $\flat$ is an integer. Assume that the reciprocal fractional part function $\mathcal{H}[\flat] = \frac{1}{\flat}$ exists. It is commonly known that the fractional portion of $\flat$ equals 0 whenever it is an integer. Therefore, for $\mathcal{H}[\flat] = \frac{1}{\flat}$ to be defined, l cannot be an integer. Its domain is $\mathcal{H}[\flat] = \frac{1}{\flat}$, which includes all real numbers except integers. Here $\mathfrak{L}_{\pitchfork_\propto} = \log_{\pitchfork_\propto}$ and
$\pitchfork_\propto = \prod_{\propto=1}^{n} \left[\lfloor \mathfrak{L}\beth^{\mathfrak{T}} \rfloor \lfloor \flat \rfloor \cdot E^{\lfloor \mathfrak{L}\aleph^{\mathfrak{T}} \rfloor \lfloor \flat \rfloor}, \lfloor \mathfrak{L}\beth^{\mathfrak{I}} \rfloor \lfloor \flat \rfloor \cdot E^{\lfloor \mathfrak{L}\aleph^{\mathfrak{I}} \rfloor \lfloor \flat \rfloor}, \lfloor \mathfrak{L}\beth^{\mathfrak{F}} \rfloor \lfloor \flat \rfloor \cdot E^{\lfloor \mathfrak{L}\aleph^{\mathfrak{F}} \rfloor \lfloor \flat \rfloor} \right]$

Definition 2.1. The RFFNS $\Finv = \left\{\flat, \left\langle \left\lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{T}}\rfloor\lfloor\flat\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}\rfloor\lfloor\flat\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{I}}\rfloor\lfloor\flat\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{I}}\rfloor\lfloor\flat\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \sqsupset^{\mathfrak{F}}\rfloor\lfloor\flat\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{F}}\rfloor\lfloor\flat\rfloor}\right\rfloor\right\rangle \middle| \flat\in\mathcal{A}\right\}$, where $\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{T}}\rfloor, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{I}}\rfloor, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{F}}\rfloor : \mathcal{A}\to\lfloor 0,1\rfloor$ denote the MD, IMD and NMD of $\flat\in\mathcal{A}$ to $\Finv$, respectively and $0\preccurlyeq \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{T}}\rfloor\lfloor\flat\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{I}}\rfloor\lfloor\flat\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{F}}\rfloor\lfloor\flat\rfloor\rfloor^{\lessdot^{-\shortmid}} \preccurlyeq 1$ and $0\preccurlyeq \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{T}}\rfloor\lfloor\flat\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{I}}\rfloor\lfloor\flat\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{F}}\rfloor\lfloor\flat\rfloor\rfloor^{\lessdot^{-\shortmid}} \preccurlyeq 1$. For convenience, $\Finv = \left\langle\left\lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{T}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{T}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{I}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{I}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{F}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{F}}\rfloor}\right\rfloor\right\rangle$ is represent a CLOGRFFNN.

Definition 2.2. Let $\Finv = \langle\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{T}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{T}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{I}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{I}}\rfloor}, \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset^{\mathfrak{F}}\rfloor\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph^{\mathfrak{F}}\rfloor}\rfloor\rangle$, $\Finv_1 = \langle\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{T}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{T}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{I}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{I}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{F}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{F}}\rfloor}\rfloor\rangle$, $\Finv_2 = \langle\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{T}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{T}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{I}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{I}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{F}}\rfloor\cdot E^{\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{F}}\rfloor}\rfloor\rangle$ be any three CLOGRFFNNs. Then

(1) $\Finv_1 \square \Finv_2 =$

$$\begin{pmatrix} \sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}}}, \\ \sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}}}, \\ \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot E^{\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}} \end{pmatrix},$$

(2) $\Finv_1 \divideontimes \Finv_2 =$

$$\begin{pmatrix} \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot E^{\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-\shortmid}}}, \\ \sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_1^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}}} \\ \sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_2^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\begin{matrix}\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}} + \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}} \\ -\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\sqsupset_1^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\cdot\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\aleph_2^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-\shortmid}}\end{matrix}}} \end{pmatrix}$$

(3) $$\sharp\cdot\Finv = \begin{pmatrix} \sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\sqsupset^{\mathfrak{T}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\aleph^{\mathfrak{T}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}}}, \\ \sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\sqsupset^{\mathfrak{I}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\aleph^{\mathfrak{I}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}}}, \\ \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\sqsupset^{\mathfrak{F}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}\cdot E^{\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\aleph^{\mathfrak{F}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}} \end{pmatrix}$$

(4) $$\Finv^{\sharp} = \begin{pmatrix} \lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\sqsupset^{\mathfrak{T}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}\cdot E^{\lfloor\lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\aleph^{\mathfrak{T}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}}, \\ \sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\sqsupset^{\mathfrak{I}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\aleph^{\mathfrak{I}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}}}, \\ \sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\sqsupset^{\mathfrak{F}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \lfloor \shortmid - \lfloor \mathfrak{L}_{\pitchfork_{\propto}}\lfloor\aleph^{\mathfrak{F}}\rfloor^{\lessdot^{-\shortmid}}\rfloor^{\sharp}}} \end{pmatrix}.$$

Definition 2.3. For any two CLOGRFFNNs $\dashv_1 = \langle \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{T}} \rfloor, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{I}} \rfloor, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{F}} \rfloor \rfloor \rfloor \rangle$ and $\dashv_2 = \langle \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{T}} \rfloor, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{I}} \rfloor, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{F}} \rfloor \rfloor \rfloor \rangle$. Then

$$\Gamma_E \lfloor \dashv_1, \dashv_2 \rfloor = \sqrt{\frac{1}{2}\left(\left(\begin{array}{c} \shortmid + \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{F}} \rfloor \rfloor^2 \\ - \left\lfloor \shortmid + \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{F}} \rfloor \rfloor^2 \right\rfloor \end{array} \right)^2 + \left(\begin{array}{c} \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{F}} \rfloor \rfloor^2 \\ - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{F}} \rfloor \rfloor^2 \right\rfloor \end{array} \right)^2 \right)}$$

where $\Gamma_E \lfloor \dashv_1, \dashv_2 \rfloor$ is called the ED between $\dashv_1$ and $\dashv_2$.

$$\Gamma_H \lfloor \dashv_1, \dashv_2 \rfloor = \frac{1}{2}\left(\left| \begin{array}{c} \shortmid + \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{F}} \rfloor \rfloor^2 \\ - \left\lfloor \shortmid + \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_2^{\mathfrak{F}} \rfloor \rfloor^2 \right\rfloor \end{array} \right| + \left| \begin{array}{c} \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{F}} \rfloor \rfloor^2 \\ \left\lfloor - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{T}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{I}} \rfloor \rfloor^2 - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{F}} \rfloor \rfloor^2 \right\rfloor \end{array} \right| \right)$$

where $\Gamma_H \lfloor \dashv_1, \dashv_2 \rfloor$ is called the HD between $\dashv_1$ and $\dashv_2$.

3. AOs based on CLOGRFFNN

3.1. *CLOGRFFNWA*

Definition 3.1. Let $\dashv_\propto = \langle \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{T}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{T}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{I}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{I}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}} \rfloor} \rfloor \rfloor \rangle$ be the CLOGRFFNNs, $W = \lfloor \epsilon_1, \epsilon_2, ..., \epsilon_n \rfloor$ be the weight of $\dashv_\propto$, $\epsilon_\propto \succcurlyeq 0$ and $\Box_{\propto=1}^{n} \epsilon_\propto = 1$. Then CLOGRFFNWA $\lfloor \dashv_1, \dashv_2, ..., \dashv_n \rfloor = \Box_{\propto=1}^{n} \epsilon_\propto \dashv_\propto$.

Theorem 3.2. *Let* $\dashv_\propto = \left\langle \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{T}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{T}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{I}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{I}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}} \rfloor} \rfloor \rfloor \right\rangle$ *be the CLOGRFFNNs. Then CLOGRFFNWA*$\lfloor \dashv_1, \dashv_2, ..., \dashv_n \rfloor$

$$= \left(\begin{array}{c} \sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{T}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_\propto}} \cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{T}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_\propto}}}, \\ \sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{I}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_\propto}} \cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{I}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_\propto}}}, \\ \Diamond_{\propto=1}^{n} \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \rfloor^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{n} \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \rfloor^{\epsilon_\propto}} \end{array} \right).$$

Proof. If $n = 2$, then CLOGRFFNWA$\lfloor \dashv_1, \dashv_2 \rfloor = \epsilon_1 \dashv_1 \Box \epsilon_2 \dashv_2$, where

$$\epsilon_1 \dashv_1 = \left(\begin{array}{c} \sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{T}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_1}} \cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_1}}}, \\ \sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{I}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_1}} \cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\shortmid - \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \right\rfloor^{\epsilon_1}}}, \\ \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{F}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \rfloor^{\epsilon_1} \cdot E^{\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{F}} \rfloor \rfloor^{\sphericalangle^{-\shortmid}} \rfloor^{\epsilon_1}} \end{array} \right)$$

$$\epsilon_2\daleth_2 = \begin{pmatrix} \sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}} \cdot E^{\sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}}}, \\ \sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}} \cdot E^{\sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}}} \\ \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_2} \cdot E^{\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_2}} \end{pmatrix}.$$

Now, $\epsilon_1\daleth_1 \boxdot \epsilon_2\daleth_2$

$$= \begin{pmatrix} \sqrt[\lhd^{-1}]{\begin{array}{c} \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor + \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor \\ - \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor \cdot \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor, \end{array}} \cdot E^{\sqrt[\lhd^{-1}]{\begin{array}{c} \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor + \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor \\ - \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor \cdot \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor, \end{array}}} \\ \sqrt[\lhd^{-1}]{\begin{array}{c} \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor + \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor \\ - \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor \cdot \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor, \end{array}} \cdot E^{\sqrt[\lhd^{-1}]{\begin{array}{c} \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor + \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor \\ - \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \right\rfloor \cdot \\ \left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2} \right\rfloor, \end{array}}} \\ \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_1} \cdot \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_2} \cdot E^{\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_1} \cdot \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_2}} \end{pmatrix}$$

$$= \begin{pmatrix} \sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}} \cdot \\ E^{\sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{T}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}}}, \\ \sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}} \cdot \\ E^{\sqrt[\lhd^{-1}]{\imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_1} \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{I}} \rfloor\rfloor^{\lhd^{-1}} \right\rceil^{\epsilon_2}}}, \\ \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_1^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_1} \cdot \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_2^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_2} \cdot \\ E^{\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_1} \cdot \lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_2^{\mathfrak{F}} \rfloor\rfloor^{\lhd^{-1}}\rfloor^{\epsilon_2}} \end{pmatrix}$$

Hence, CLOGRFFNWA$\lfloor \dashv_1, \dashv_2 \rfloor$

$$= \begin{pmatrix} \sqrt[\lhd^{-1}]{\imath - \Diamond_{\propto=1}^{2}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{\imath-\Diamond_{\propto=1}^{2}\left\lfloor \imath-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}}}, \\ \sqrt[\lhd^{-1}]{\imath - \Diamond_{\propto=1}^{2}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{\imath-\Diamond_{\propto=1}^{2}\left\lfloor \imath-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}}}, \\ \Diamond_{\propto=1}^{2}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{2}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto}} \end{pmatrix}.$$

It valid for $n \succcurlyeq 3$,

Thus, CLOGRFFNWA$\lfloor \dashv_1, \dashv_2, ..., \dashv_l \rfloor$

$$= \begin{pmatrix} \sqrt[\lhd^{-1}]{\imath - \Diamond_{\propto=1}^{l}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{\imath-\Diamond_{\propto=1}^{l}\left\lfloor \imath-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}}}, \\ \sqrt[\lhd^{-1}]{\imath - \Diamond_{\propto=1}^{l}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{\imath-\Diamond_{\propto=1}^{l}\left\lfloor \imath-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}}}, \\ \Diamond_{\propto=1}^{l}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{l}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto}} \end{pmatrix}.$$

If $n = l+1$, then CLOGRFFNWA $\lfloor \dashv_1, \dashv_2, ..., \dashv_l, \dashv_{l+1} \rfloor$

$$= \begin{pmatrix} \sqrt[\lhd^{-1}]{\begin{array}{c} \square_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil + \left\lfloor \imath - \left\lfloor \imath - \lfloor \sqsupset_{l+1}^{\mathfrak{T}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \\ -\Diamond_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil \cdot \left\lfloor \imath - \left\lfloor \imath - \lfloor \sqsupset_{l+1}^{\mathfrak{T}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \end{array}} \cdot \\ E^{\sqrt[\lhd^{-1}]{\begin{array}{c} \square_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil + \left\lfloor \imath - \left\lfloor \imath - \lfloor \aleph_{l+1}^{\mathfrak{T}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \\ -\Diamond_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil \cdot \left\lfloor \imath - \left\lfloor \imath - \lfloor \aleph_{l+1}^{\mathfrak{T}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \end{array}}}, \\ \sqrt[\lhd^{-1}]{\begin{array}{c} \square_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil + \left\lfloor \imath - \left\lfloor \imath - \lfloor \sqsupset_{l+1}^{\mathfrak{I}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \\ -\Diamond_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil \cdot \left\lfloor \imath - \left\lfloor \imath - \lfloor \sqsupset_{l+1}^{\mathfrak{I}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \end{array}} \cdot \\ E^{\sqrt[\lhd^{-1}]{\begin{array}{c} \square_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil + \left\lfloor \imath - \left\lfloor \imath - \lfloor \aleph_{l+1}^{\mathfrak{I}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \\ -\Diamond_{\propto=1}^{l}\left\lfloor \imath - \left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}\right\rceil \cdot \left\lfloor \imath - \left\lfloor \imath - \lfloor \aleph_{l+1}^{\mathfrak{I}}\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_{l+1}}\right\rceil \end{array}}}, \\ \Diamond_{\propto=1}^{l}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto} \cdot \lfloor\lfloor \sqsupset_{l+1}^{\mathfrak{F}}\rfloor^{\lhd^{-1}}\rceil^{\epsilon_{l+1}} \cdot E^{\Diamond_{\propto=1}^{l}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto} \cdot \lfloor\lfloor \aleph_{l+1}^{\mathfrak{F}}\rfloor^{\lhd^{-1}}\rceil^{\epsilon_{l+1}}} \end{pmatrix}$$

$$= \begin{pmatrix} \sqrt[\lhd^{-1}]{\imath - \Diamond_{\propto=1}^{l+1}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{\imath-\Diamond_{\propto=1}^{l+1}\left\lfloor \imath-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}}}, \\ \sqrt[\lhd^{-1}]{\imath - \Diamond_{\propto=1}^{l+1}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{\imath-\Diamond_{\propto=1}^{l+1}\left\lfloor \imath-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rceil^{\epsilon_\propto}}}, \\ \Diamond_{\propto=1}^{l+1}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\sqsupset_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{l+1}\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto}\aleph_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\rceil^{\epsilon_\propto}} \end{pmatrix}.$$

.

Theorem 3.3. *Let* $\dashv_\propto = \left\langle \lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}_\propto\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}_\propto\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}_\propto\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}_\propto\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}_\propto\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}_\propto\rfloor}\rfloor\rfloor\right\rangle$ *be the CLOGRFFNNs. Then CLOGRFFNWA* $\lfloor\dashv_1, \dashv_2, ..., \dashv_n\rfloor = \dashv$ *(idempotency property).*

Proof. Since $\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}_\propto\rfloor = \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}\rfloor$, $\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}_\propto\rfloor = \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}\rfloor$ and $\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}_\propto\rfloor = \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}\rfloor$ and $\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}_\propto\rfloor = \lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}\rfloor$, $\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}_\propto\rfloor = \lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}\rfloor$ and $\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}_\propto\rfloor = \lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}\rfloor$ and $\Box_{\propto=1}^{n}\epsilon_\propto = 1$. Now, CLOGRFFNWA$\lfloor\dashv_1, \dashv_2, ..., \dashv_n\rfloor$

$$
\begin{aligned}
&= \begin{pmatrix}
\sqrt[\lhd^{-\imath}]{\imath - \diamondsuit_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}_\propto\rfloor\rfloor^{\lhd^{-\imath}}\right\rfloor^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \diamondsuit_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}_\propto\rfloor\rfloor^{\lhd^{-\imath}}\right\rfloor^{\epsilon_\propto}}}, \\
\sqrt[\lhd^{-\imath}]{\imath - \diamondsuit_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}_\propto\rfloor\rfloor^{\lhd^{-\imath}}\right\rfloor^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \diamondsuit_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}_\propto\rfloor\rfloor^{\lhd^{-\imath}}\right\rfloor^{\epsilon_\propto}}}, \\
\diamondsuit_{\propto=1}^{n}\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}_\propto\rfloor\rfloor^{\lhd^{-\imath}}\rfloor^{\epsilon_\propto} \cdot E^{\diamondsuit_{\propto=1}^{n}\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}_\propto\rfloor\rfloor^{\lhd^{-\imath}}\rfloor^{\epsilon_\propto}}
\end{pmatrix} \\
&= \begin{pmatrix}
\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\beth^{\mathfrak{T}}\rfloor^{\lhd^{-\imath}}\right\rfloor^{\Box_{\propto=1}^{n}\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\aleph^{\mathfrak{T}}\rfloor^{\lhd^{-\imath}}\right\rfloor^{\Box_{\propto=1}^{n}\epsilon_\propto}}}, \\
\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\beth^{\mathfrak{I}}\rfloor^{\lhd^{-\imath}}\right\rfloor^{\Box_{\propto=1}^{n}\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\aleph^{\mathfrak{I}}\rfloor^{\lhd^{-\imath}}\right\rfloor^{\Box_{\propto=1}^{n}\epsilon_\propto}}}, \\
\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\beth^{\mathfrak{F}}\rfloor^{\lhd^{-\imath}}\rfloor^{\Box_{\propto=1}^{n}\epsilon_\propto} \cdot E^{\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\aleph^{\mathfrak{F}}\rfloor^{\lhd^{-\imath}}\rfloor^{\Box_{\propto=1}^{n}\epsilon_\propto}}
\end{pmatrix} \\
&= \begin{pmatrix}
\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\beth^{\mathfrak{T}}\rfloor^{\lhd^{-\imath}}\right\rfloor} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\aleph^{\mathfrak{T}}\rfloor^{\lhd^{-\imath}}\right\rfloor}}, \\
\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\beth^{\mathfrak{I}}\rfloor^{\lhd^{-\imath}}\right\rfloor} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\aleph^{\mathfrak{I}}\rfloor^{\lhd^{-\imath}}\right\rfloor}}, \\
\lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\beth^{\mathfrak{F}}\rfloor^{\lhd^{-\imath}} \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\lfloor\aleph^{\mathfrak{F}}\rfloor^{\lhd^{-\imath}}}
\end{pmatrix} \\
&= \dashv.
\end{aligned}
$$

.

Theorem 3.4. *Let* $\dashv_\propto = \left\langle \lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}_\propto\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}_\propto\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}_\propto\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}_\propto\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}_\propto\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}_\propto\rfloor}\rfloor\rfloor\right\rangle$ *be the CLOGRFFNNs. Then CLOGRFFNWA*$\lfloor\dashv_1, \dashv_2, ..., \dashv_n\rfloor$ *where* $\underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}\rfloor} = \min\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}_{ij}\rfloor$, $\overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}\rfloor} = \max\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}_{ij}\rfloor$, $\underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}\rfloor} = \min\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}_{ij}\rfloor$, $\overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}\rfloor} = \max\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}_{ij}\rfloor$, $\underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}\rfloor} = \min\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}_{ij}\rfloor$, $\overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}\rfloor} = \max\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}_{ij}\rfloor$ *and* $\underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}\rfloor} = \min\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}_{ij}\rfloor$, $\overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}\rfloor} = \max\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}_{ij}\rfloor$, $\underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}\rfloor} = \min\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}_{ij}\rfloor$, $\overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}\rfloor} = \max\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}_{ij}\rfloor$, $\underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}\rfloor} = \min\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}_{ij}\rfloor$, $\overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}\rfloor} = \max\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}_{ij}\rfloor$ *and where* $1 \preccurlyeq i \preccurlyeq n,\ j = 1, 2, ..., i_j$. *Then,*

$$
\begin{aligned}
&\left\langle \underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}\rfloor \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}\rfloor}}, \underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}\rfloor \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}\rfloor}}, \overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}\rfloor \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}\rfloor}} \right\rangle \\
&\quad\preccurlyeq\ CLOGRFFNWA\lfloor\dashv_1, \dashv_2, ..., \dashv_n\rfloor \\
&\quad\preccurlyeq\ \left\langle \overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{T}}\rfloor \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{T}}\rfloor}}, \overline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{I}}\rfloor \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{I}}\rfloor}}, \underline{\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth^{\mathfrak{F}}\rfloor \cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph^{\mathfrak{F}}\rfloor}} \right\rangle.
\end{aligned}
$$

(Boundedness property).

Proof. Since, $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor} = \min\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{ij} \rfloor$, $\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor} = \max\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{ij} \rfloor$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor} \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{ij} \rfloor \preccurlyeq \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor}$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor} = \min\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}_{ij} \rfloor$, $\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor} = \max\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}_{ij} \rfloor$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor} \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}_{ij} \rfloor \preccurlyeq \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor}$.

Now $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor} \cdot E^{\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor}}$

$$
\begin{aligned}
&= \sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}}} \\
&\preccurlyeq \sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{ij} \rfloor \rfloor \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}_{ij} \rfloor \rfloor \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}}} \\
&\preccurlyeq \sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}}} \\
&= \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}} \rfloor}.
\end{aligned}
$$

Since, $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} = \min\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{ij} \rfloor$, $\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} = \max\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{ij} \rfloor$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{ij} \rfloor \preccurlyeq \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor}$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor} = \min\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}}_{ij} \rfloor$, $\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor} = \max\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}}_{ij} \rfloor$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor} \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}}_{ij} \rfloor \preccurlyeq \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor}$.

Now, $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} \cdot E^{\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor}}$

$$
\begin{aligned}
&= \sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}}} \\
&\preccurlyeq \sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}}} \\
&\preccurlyeq \sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lessdot^{-\shortmid}]{\shortmid - \Diamond_{\propto=1}^{n} \left\lfloor \shortmid - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor} \rfloor^{\lessdot^{-\shortmid}} \right\rfloor^{\epsilon_{\propto}}}} \\
&= \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}} \rfloor} \cdot E^{\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}} \rfloor}}.
\end{aligned}
$$

Since, $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor} = \min\lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{F}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}}$, $\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor} = \max\lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{F}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}}$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor} \preccurlyeq \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{F}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}} \preccurlyeq \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor}$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor} = \min\lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{F}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}}$, $\overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor} = \max\lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{F}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}}$ and $\underline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor} \preccurlyeq \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{F}}_{ij} \rfloor \rfloor^{\lessdot^{-\shortmid}} \preccurlyeq \overline{\lfloor \mathfrak{L}_{\pitchfork_{\propto}} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lessdot^{-\shortmid}} \rfloor}$.

We have,

$$\begin{aligned}
\underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}}} &= \Diamond_{\propto=1}^{n} \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}} \rfloor}^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{n} \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}} \rfloor}^{\epsilon_\propto}} \\
&\preccurlyeq \Diamond_{\propto=1}^{n} \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{ij}^{\mathfrak{F}} \rfloor \rfloor^{\lhd^{-\imath}} \rfloor^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{n} \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{ij}^{\mathfrak{F}} \rfloor \rfloor^{\lhd^{-\imath}} \rfloor^{\epsilon_\propto}} \\
&\preccurlyeq \Diamond_{\propto=1}^{n} \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}} \rfloor}^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{n} \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}} \rfloor}^{\epsilon_\propto}} \\
&= \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \beth^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}} \rfloor} \cdot E^{\overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \lfloor \aleph^{\mathfrak{F}} \rfloor^{\lhd^{-\imath}} \rfloor}}.
\end{aligned}$$

Therefore,

$$\begin{aligned}
&\frac{1}{2} \times \left(\begin{array}{c}
\left(\begin{array}{c} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 - \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 \\ +1 - \left\lfloor \Diamond_{\propto=1}^{n} \lfloor \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}} \rfloor} \rfloor^{\lhd^{-\imath}} \rfloor^{\epsilon_\propto} \right\rfloor^2 \end{array} \right) \\
+ \left(\begin{array}{c} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 - \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 \\ - \left\lfloor \Diamond_{\propto=1}^{n} \lfloor \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}} \rfloor} \rfloor^{\lhd^{-\imath}} \rfloor^{\epsilon_\propto} \right\rfloor^2 \end{array} \right)
\end{array} \right) \\
\preccurlyeq \; &\frac{1}{2} \times \left(\begin{array}{c}
\left(\begin{array}{c} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 - \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 + \\ +1 - \left\lfloor \Diamond_{\propto=1}^{n} \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}} \rfloor} \rfloor^{\lhd^{-\imath}} \rfloor^{\epsilon_\propto} \right\rfloor^2 \end{array} \right) \\
+ \left(\begin{array}{c} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 - \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}} \rfloor} \rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_\propto}} \right\rfloor^2 + \\ - \left\lfloor \Diamond_{\propto=1}^{n} \lfloor \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}} \rfloor} \rfloor^{\lhd^{-\imath}} \rfloor^{\epsilon_\propto} \right\rfloor^2 \end{array} \right)
\end{array} \right).
\end{aligned}$$

Hence,

$\left\langle \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}} \rfloor}}, \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}} \rfloor}}, \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}} \rfloor}} \right\rangle$
$\preccurlyeq CLOGRFFNWA\lfloor \daleth_1, \daleth_2, ..., \daleth_n \rfloor$
$\preccurlyeq \langle \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}} \rfloor}}, \overline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}} \rfloor}}, \underline{\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}} \rfloor}} \rangle$. .

Theorem 3.5. *Let* $\daleth_\propto = \langle \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{T}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{T}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{I}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{I}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{F}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{F}} \rfloor} \rfloor \rangle$ *and* $W_\propto = \langle \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{T}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{T}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{I}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{I}} \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{F}} \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{F}} \rfloor} \rfloor \rangle$, *be the* $CLOGRFFNWAs$. *For any* i, *if there is* $\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{T}} \rfloor^2 \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{T}} \rfloor^2$ *and* $\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{I}} \rfloor^2 \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{I}} \rfloor^2$ *and* $\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{F}} \rfloor^2 \succcurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{F}} \rfloor^2$ *and* $\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{T}} \rfloor^2 \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{T}} \rfloor^2$ *and* $\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{I}} \rfloor^2 \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{I}} \rfloor^2$ *and* $\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{F}} \rfloor^2 \succcurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{F}} \rfloor^2 or\ \daleth_\propto \preccurlyeq W_\propto$.
Prove that $CLOGRFFNWA\lfloor \daleth_1, \daleth_2, ..., \daleth_n \rfloor \preccurlyeq CLOGRFFNWA\lfloor W_1, W_2, ..., W_n \rfloor$,
where $\lfloor i = 1, 2, ..., n \rfloor; \lfloor j = 1, 2, ..., i_j \rfloor$ *(monotonicity property).*

Proof. For any i, $\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{T}} \rfloor^2 \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{T}} \rfloor^2$.
Therefore, $\imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_\propto}^{\mathfrak{T}} \rfloor \rfloor^2 \succcurlyeq \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_\propto}^{\mathfrak{T}} \rfloor \rfloor^2$.
Hence, $\Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_\propto}^{\mathfrak{T}} \rfloor \rfloor^2 \right\rfloor^{\epsilon_\propto} \succcurlyeq \Diamond_{\propto=1}^{n} \left\lfloor \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_\propto}^{\mathfrak{T}} \rfloor \rfloor^2 \right\rfloor^{\epsilon_\propto}$

and $\sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_\propto}^{\mathfrak{T}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}} \preccurlyeq \sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_\propto}^{\mathfrak{T}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}}$.
Similarly, $\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{T}}\rfloor^2 \preccurlyeq \lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{T}}\rfloor^2$.
Therefore, $\imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_\propto}^{\mathfrak{T}}\rfloor\rfloor^2 \succcurlyeq \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_\propto}^{\mathfrak{T}}\rfloor\rfloor^2$.
Hence, $\Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_\propto}^{\mathfrak{T}}\rfloor\rfloor^2\right\rfloor^{\epsilon_\propto} \succcurlyeq \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_\propto}^{\mathfrak{T}}\rfloor\rfloor^2\right\rfloor^{\epsilon_\propto}$
and $\sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_\propto}^{\mathfrak{T}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}} \preccurlyeq \sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_\propto}^{\mathfrak{T}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}}$.
For any i, $\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{I}}\rfloor^{\triangleleft^{-\imath}} \preccurlyeq \left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{I}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}$.
Therefore, $\imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}} \succcurlyeq \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}$.
Hence, $\Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto} \succcurlyeq \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}$.
This implies that $\sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}} \preccurlyeq \sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}}$.

Similarly, for any i, $\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{I}}\rfloor^{\triangleleft^{-\imath}} \preccurlyeq \left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{I}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}$.
Therefore, $\imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}} \succcurlyeq \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}$.
Hence, $\Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto} \succcurlyeq \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}$.
This implies that $\sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}} \preccurlyeq \sqrt[\triangleleft^{-\imath}]{\imath - \Diamond_{\propto=1}^{n}\left\lfloor \imath - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\triangleleft^{-\imath}}\right\rfloor^{\epsilon_\propto}}$.

For any i, $\left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^2 \succcurlyeq \left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^2$ and $\left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}} \succcurlyeq \left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}$.
Therefore, $\imath - \frac{\left\lfloor \Diamond_{\propto=1}^{n}\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{t_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}}{2} \preccurlyeq \imath - \frac{\left\lfloor \Diamond_{\propto=1}^{n}\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth_{h_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}}{2}$.
Similarly, for any i,
$\left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^2 \succcurlyeq \left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^2$ and $\left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}} \succcurlyeq \left\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}$.
Therefore, $-\left\lfloor \Diamond_{\propto=1}^{n}\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{t_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}} \preccurlyeq -\left\lfloor \Diamond_{\propto=1}^{n}\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_{h_{ij}}^{\mathfrak{F}}\rfloor\right\rfloor^{\triangleleft^{-\imath}}$.

Hence,

$$\frac{1}{2}\times\left(\begin{array}{c}\left(\begin{array}{c}\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_{ti}^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}-\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}\\ +1-\left\lfloor\Diamond_{\propto=1}^{n}\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_{t_\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{2}\end{array}\right)\\ +\left(\begin{array}{c}\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_{ti}^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}-\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_{t_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}\\ -\left\lfloor\Diamond_{\propto=1}^{n}\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_{t_\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{2}\end{array}\right)\end{array}\right)$$

$$\preccurlyeq\frac{1}{2}\times\left(\begin{array}{c}\left(\begin{array}{c}\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_{hi}^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}-\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}\\ +1-\left\lfloor\Diamond_{\propto=1}^{n}\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_{h_\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{2}\end{array}\right)\\ +\left(\begin{array}{c}\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_{hi}^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}-\left\lfloor \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_{h_\propto}^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{2}\\ -\left\lfloor\Diamond_{\propto=1}^{n}\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_{h_\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{2}\end{array}\right)\end{array}\right).$$

Hence, CLOGRFFNWA$\lfloor \daleth_1, \daleth_2, ..., \daleth_n\rfloor \preccurlyeq CLOGRFFNWA\lfloor W_1, W_2, ..., W_n\rfloor$.

3.2. *CLOGRFFNWG*

Definition 3.6. Let $\daleth_\propto = \left\langle\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{T}}\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{T}}\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{I}}\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{I}}\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{F}}\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{F}}\rfloor}\rfloor\right\rfloor\right\rangle$ be the CLOGRFFNNs. Then RFFNWG $\lfloor\daleth_1, \daleth_2, ..., \daleth_n\rfloor = \Diamond_{\propto=1}^{n}\daleth_\propto^{\epsilon_\propto}$.

Corollary 3.7. *Let* $\daleth_\propto = \left\langle\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{T}}\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{T}}\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{I}}\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{I}}\rfloor}, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{F}}\rfloor\cdot E^{\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{F}}\rfloor}\rfloor\right\rfloor\right\rangle$ *be the CLOGRFFNNs. Then CLOGRFFNWG* $\lfloor\daleth_1, \daleth_2, ..., \daleth_n\rfloor$

$$=\left(\begin{array}{c}\Diamond_{\propto=1}^{n}\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-1}}\rfloor^{\epsilon_\propto}\cdot E^{\Diamond_{\propto=1}^{n}\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{T}}\rfloor\rfloor^{\lessdot^{-1}}\rfloor^{\epsilon_\propto}}\\ \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\cdot E^{\sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{I}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}}\\ \sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}\cdot E^{\sqrt[\lessdot^{-1}]{1-\Diamond_{\propto=1}^{n}\left\lfloor 1-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{F}}\rfloor\rfloor^{\lessdot^{-1}}\right\rfloor^{\epsilon_\propto}}}\end{array}\right).$$

3.3. *Generalized CLOGRFFNWA(GCLOGRFFNWA)*

Definition 3.8. Let $\daleth_\propto = \left\langle\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{T}}\rfloor, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{I}}\rfloor, \lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{F}}\rfloor\rfloor\rfloor\right\rangle$ be the CLOGRFFNN. Then GCLOGRFFNWA $\lfloor\daleth_1, \daleth_2, ..., \daleth_n\rfloor = \left\lfloor\Box_{\propto=1}^{n}\epsilon_\propto\daleth_\propto^{\sharp}\right\rfloor^{1/\sharp}$.

Theorem 3.9. *Let* $\Finv_{\propto} = \left\langle \lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{\propto} \rfloor, \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{\propto} \rfloor, \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{F}}_{\propto} \rfloor \rfloor \rfloor \right\rangle$ *be the CLOGRFFNNs. Then GCLOGRFFNWA* $\lfloor \Finv_1, \Finv_2, ..., \Finv_n \rfloor$

$$
= \begin{pmatrix}
\left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}} \right\rfloor^{1/\lhd^{-\imath}} \cdot \\
E^{\left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}} \right\rfloor^{1/\lhd^{-\imath}}}, \\
\left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}} \right\rfloor^{1/\lhd^{-\imath}} \cdot \\
E^{\left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}} \right\rfloor^{1/\lhd^{-\imath}}}, \\
\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \left\lfloor \Diamond_{\propto=1}^{n} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{F}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}}} \right\rfloor^{\epsilon_{\propto}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{1/\lhd^{-\imath}}} \cdot \\
E^{\sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \left\lfloor \Diamond_{\propto=1}^{n} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{F}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}}} \right\rfloor^{\epsilon_{\propto}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{1/\lhd^{-\imath}}}}
\end{pmatrix}.
$$

Proof. To illustrate this, we may first show that,

$$
\Box_{\propto=1}^{n} \epsilon_{\propto} \Finv_{\propto}^{\lhd^{-\imath}} =
$$

$$
\begin{pmatrix}
\sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{T}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{T}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}}} \\
\sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{I}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lhd^{-\imath}]{\imath - \Diamond_{\propto=1}^{n} \left\lfloor \imath - \left\lfloor \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{I}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}} \right\rfloor^{\epsilon_{\propto}}}} \\
\Diamond_{\propto=1}^{n} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \beth^{\mathfrak{F}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}}} \right\rfloor^{\epsilon_{\propto}} \cdot E^{\Diamond_{\propto=1}^{n} \left\lfloor \sqrt[\lhd^{-\imath}]{\imath - \left\lfloor \imath - \lfloor \lfloor \mathfrak{L}_{\pitchfork_{\propto}} \aleph^{\mathfrak{F}}_{\propto} \rfloor \rfloor^{\lhd^{-\imath}} \right\rfloor^{\lhd^{-\imath}}} \right\rfloor^{\epsilon_{\propto}}}
\end{pmatrix}.
$$

Put $n = 2$, $\epsilon_1 \daleth_1 \Box \epsilon_2 \daleth_2$

$$= \begin{pmatrix} \sqrt[\lhd^{-\shortmid}]{\begin{matrix} \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} + \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{2}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \\ - \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \cdot \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{2}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \end{matrix}} \cdot E^{\sqrt[\lhd^{-\shortmid}]{\begin{matrix} \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} + \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{2}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \\ - \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \cdot \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{2}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \end{matrix}}}, \\ \sqrt[\lhd^{-\shortmid}]{\begin{matrix} \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} + \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{2}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \\ - \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \cdot \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{2}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \end{matrix}} \cdot E^{\sqrt[\lhd^{-\shortmid}]{\begin{matrix} \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} + \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{2}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \\ - \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \cdot \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{2}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_1}}\right\rceil^{\lhd^{-\shortmid}} \end{matrix}}} \\ \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}}\right\rceil^{\epsilon_1} \cdot \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{2}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}}\right\rceil^{\epsilon_1} \\ \cdot E^{\left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}}\right\rceil^{\epsilon_1} \cdot \left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{2}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}}\right\rceil^{\epsilon_1}} \end{pmatrix}$$

$$= \begin{pmatrix} \sqrt[\lhd^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{2}\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lhd^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{2}\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_{\propto}}}} \\ \sqrt[\lhd^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{2}\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{1}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_{\propto}}} \cdot E^{\sqrt[\lhd^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{2}\left\lfloor \shortmid-\left\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{1}^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}\right\rceil^{\epsilon_{\propto}}}} \\ \Diamond_{\propto=1}^{2}\left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\beth_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}}\right\rceil^{\epsilon_{\propto}} \cdot \Diamond_{\propto=1}^{2}\left\lfloor \sqrt[\lhd^{-\shortmid}]{\shortmid-\left\lfloor \shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_{\propto}}\aleph_{\propto}^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-\shortmid}}\right\rceil^{\lhd^{-\shortmid}}}\right\rceil^{\epsilon_{\propto}} \end{pmatrix}.$$

Hence,

$$\square_{\propto=1}^{l}\epsilon_{\propto}\dashv_{\propto}^{\sharp} =$$

$$\begin{pmatrix} \sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_1^{\mathfrak{T}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_1^{\mathfrak{T}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor\rfloor^{\epsilon_\propto}}} \\ \sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_1^{\mathfrak{I}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_1^{\mathfrak{I}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor\rfloor^{\epsilon_\propto}}} \\ \Diamond_{\propto=1}^{l}\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{F}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}}\rfloor^{\epsilon_\propto}\cdot E^{\Diamond_{\propto=1}^{l}\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{F}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}}\rfloor^{\epsilon_\propto}} \end{pmatrix}.$$

If $n = l+1$, then $\square_{\propto=1}^{l}\epsilon_{\propto}\dashv_{\propto}^{\sharp} + \epsilon_{l+1}\dashv_{l+1}^{\sharp} = \square_{\propto=1}^{l+1}\epsilon_{\propto}\dashv_{\propto}^{\sharp}$.
Now, $\square_{\propto=1}^{l}\epsilon_{\propto}\dashv_{\propto}^{\sharp} + \epsilon_{l+1}\dashv_{l+1}^{\sharp} = \epsilon_1\dashv_1^{\sharp}\square\epsilon_2\dashv_2^{\sharp}\square\ldots\square\epsilon_l\dashv_l^{\sharp}\square\epsilon_{l+1}\dashv_{l+1}^{\sharp}$

$$= \begin{pmatrix} \sqrt[\sphericalangle^{-\shortmid}]{\begin{array}{l} \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{T}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} + \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\beth_{l+1}^{\mathfrak{T}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \\ -\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{T}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} \cdot \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\beth_{l+1}^{\mathfrak{T}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \end{array}} \\ \cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\begin{array}{l} \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{T}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} + \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\aleph_{l+1}^{\mathfrak{T}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \\ -\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{T}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} \cdot \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\aleph_{l+1}^{\mathfrak{T}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \end{array}}} \\ \sqrt[\sphericalangle^{-\shortmid}]{\begin{array}{l} \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{I}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} + \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\beth_{l+1}^{\mathfrak{I}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \\ -\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{I}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} \cdot \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\beth_{l+1}^{\mathfrak{I}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \end{array}} \\ \cdot E^{\sqrt[\sphericalangle^{-\shortmid}]{\begin{array}{l} \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{I}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} + \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\aleph_{l+1}^{\mathfrak{I}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \\ -\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\Diamond_{\propto=1}^{l}\lfloor\shortmid-\lfloor\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{I}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_\propto}}\rfloor^{\sphericalangle^{-\shortmid}} \cdot \lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\aleph_{l+1}^{\mathfrak{I}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\epsilon_1}}\rfloor^{\sphericalangle^{-\shortmid}} \end{array}}} \\ \Diamond_{\propto=1}^{l}\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\beth_\propto^{\mathfrak{F}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}}\rfloor^{\epsilon_\propto}\cdot\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\beth_{l+1}^{\mathfrak{F}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}}\rfloor^{\epsilon_1} \\ \cdot E^{\Diamond_{\propto=1}^{l}\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\lfloor\mathfrak{L}_{\pitchfork_\propto}\aleph_\propto^{\mathfrak{F}}\rfloor\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}}\rfloor^{\epsilon_\propto}\cdot\lfloor\sqrt[\sphericalangle^{-\shortmid}]{\shortmid-\lfloor\shortmid-\lfloor\aleph_{l+1}^{\mathfrak{F}}\rfloor^{\sphericalangle^{-\shortmid}}\rfloor^{\sphericalangle^{-\shortmid}}}\rfloor^{\epsilon_1}} \end{pmatrix}$$

$$\Box_{\propto=1}^{l+1}\epsilon_\propto \Finv_\propto^{\lhd^{-1}} =$$

$$\begin{pmatrix} \sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}}} \\ \sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_1^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}} \cdot E^{\sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_1^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}}} \\ \Diamond_{\propto=1}^{l+1}\left\lfloor \sqrt[\lhd^{-1}]{1-\left\lfloor 1-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}}\right\rfloor^{\epsilon_\propto} \cdot E^{\Diamond_{\propto=1}^{l+1}\left\lfloor \sqrt[\lhd^{-1}]{1-\left\lfloor 1-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}}\right\rfloor^{\epsilon_\propto}} \end{pmatrix}.$$

$$\left\lfloor \Box_{\propto=1}^{l+1}\epsilon_\propto \Finv_\propto^{\sharp}\right\rfloor^{1/\sharp} = \begin{pmatrix} \left\lfloor \sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{1/\lhd^{-1}} \cdot \\ E^{\left\lfloor \sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{T}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{1/\lhd^{-1}}} \\ \left\lfloor \sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{1/\lhd^{-1}} \cdot \\ E^{\left\lfloor \sqrt[\lhd^{-1}]{1-\Diamond_{\propto=1}^{l+1}\left\lfloor 1-\left\lfloor\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{I}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}\right\rfloor^{\epsilon_\propto}}\right\rfloor^{1/\lhd^{-1}}} \\ \sqrt[\lhd^{-1}]{1-\left\lfloor 1-\left\lfloor \Diamond_{\propto=1}^{l+1}\left\lfloor \sqrt[\lhd^{-1}]{1-\left\lfloor 1-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}}\right\rfloor^{\epsilon_\propto}\right\rfloor^2\right\rfloor}^{1/\lhd^{-1}} \cdot \\ E^{\sqrt[\lhd^{-1}]{1-\left\lfloor 1-\left\lfloor \Diamond_{\propto=1}^{l+1}\left\lfloor \sqrt[\lhd^{-1}]{1-\left\lfloor 1-\lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}}\rfloor\rfloor^{\lhd^{-1}}\right\rfloor^{\lhd^{-1}}}\right\rfloor^{\epsilon_\propto}\right\rfloor^2\right\rfloor}^{1/\lhd^{-1}}} \end{pmatrix}$$

.

Theorem 3.10. *If all* $\Finv_\propto = \left\langle \left\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{T}}\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{T}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{I}}\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{I}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}}\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}}\rfloor}\rfloor \right\rfloor \right\rangle$ *and all are equal. Then* $GCLOGRFFNWA\lfloor \Finv_1, \Finv_2, ..., \Finv_n\rfloor = \Finv$.

3.4. *Generalized CLOG RFFNWG (GCLOGRFFNWG)*

Definition 3.11. Let $\Finv_\propto = \left\langle \left\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{T}}\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{T}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{I}}\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{I}}\rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \sqsupset_\propto^{\mathfrak{F}}\rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph_\propto^{\mathfrak{F}}\rfloor}\rfloor \right\rfloor \right\rangle$ be the CLOGRFFNNs. Then GCLOGRFFNWG $\lfloor \Finv_1, \Finv_2, ..., \Finv_n\rfloor = \frac{1}{\sharp}\left\lfloor \Diamond_{\propto=1}^{n}\lfloor \sharp \Finv_\propto\rfloor^{\epsilon_\propto}\right\rfloor$.

Corollary 3.12. *Let* $\daleth_\propto = \Big\langle \Big\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}}_\propto \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}}_\propto \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}}_\propto \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}}_\propto \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}}_\propto \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}}_\propto \rfloor} \rfloor \Big\rfloor \Big\rangle$ *be the CLOGRFFNNs. Then* $GCLOGRFFNWG\lfloor \daleth_1, \daleth_2, ..., \daleth_n \rfloor$

$$
= \begin{pmatrix}
\sqrt[\lessdot^{-1}]{1 - \Big\lfloor 1 - \Big\lfloor \Diamond_{\propto=1}^{n} \Big\lfloor \sqrt[\lessdot^{-1}]{1 - \big\lfloor 1 - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}}_\propto \rfloor\rfloor^{\lessdot^{-1}} \big\rfloor^{\lessdot^{-1}}} \Big\rfloor^{\epsilon_\propto} \Big\rfloor^{\lessdot^{-1}} \Big\rfloor^{1/\lessdot^{-1}}} \cdot \\
E^{\sqrt[\lessdot^{-1}]{1 - \Big\lfloor 1 - \Big\lfloor \Diamond_{\propto=1}^{n} \Big\lfloor \sqrt[\lessdot^{-1}]{1 - \big\lfloor 1 - \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}}_\propto \rfloor\rfloor^{\lessdot^{-1}} \big\rfloor^{\lessdot^{-1}}} \Big\rfloor^{\epsilon_\propto} \Big\rfloor^{\lessdot^{-1}} \Big\rfloor^{1/\lessdot^{-1}}}} \\
\Big\lfloor \sqrt[\lessdot^{-1}]{1 - \Diamond_{\propto=1}^{n} \Big\lfloor 1 - \big\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}}_\propto \rfloor\rfloor^{\lessdot^{-1}} \big\rfloor^{\lessdot^{-1}} \Big\rfloor^{\epsilon_\propto}} \Big\rfloor^{1/\lessdot^{-1}} \cdot \\
E^{\Big\lfloor \sqrt[\lessdot^{-1}]{1 - \Diamond_{\propto=1}^{n} \Big\lfloor 1 - \big\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}}_\propto \rfloor\rfloor^{\lessdot^{-1}} \big\rfloor^{\lessdot^{-1}} \Big\rfloor^{\epsilon_\propto}} \Big\rfloor^{1/\lessdot^{-1}}} \\
\Big\lfloor \sqrt[\lessdot^{-1}]{1 - \Diamond_{\propto=1}^{n} \Big\lfloor 1 - \big\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}}_\propto \rfloor\rfloor^{\lessdot^{-1}} \big\rfloor^{\lessdot^{-1}} \Big\rfloor^{\epsilon_\propto}} \Big\rfloor^{1/\lessdot^{-1}} \cdot \\
E^{\Big\lfloor \sqrt[\lessdot^{-1}]{1 - \Diamond_{\propto=1}^{n} \Big\lfloor 1 - \big\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}}_\propto \rfloor\rfloor^{\lessdot^{-1}} \big\rfloor^{\lessdot^{-1}} \Big\rfloor^{\epsilon_\propto}} \Big\rfloor^{1/\lessdot^{-1}}}
\end{pmatrix}.
$$

Corollary 3.13. *If all* $\daleth_\propto = \Big\langle \Big\lfloor \lfloor\lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{T}}_\propto \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{T}}_\propto \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{I}}_\propto \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{I}}_\propto \rfloor}, \lfloor \mathfrak{L}_{\pitchfork_\propto} \beth^{\mathfrak{F}}_\propto \rfloor \cdot E^{\lfloor \mathfrak{L}_{\pitchfork_\propto} \aleph^{\mathfrak{F}}_\propto \rfloor} \rfloor \Big\rfloor \Big\rangle$ *are equal. Then* $GCLOGRFFNWG\lfloor \daleth_1, \daleth_2, ..., \daleth_n \rfloor = \daleth$.

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