2. If $x \in (Z)_E$, then $\delta g^* - \ker(\{x\}) = \{x\} \cup (\cup\{x\})_0$ and $\delta g^* - \ker(\{x\}) \in \delta G^* O(Z, \mathcal{K})$

Proof:

1. For a point $x \in (Z)_0$, then by Theorem 3.15, $\{x\}$ is a δg^*-open set and from Definition 3.18, $\delta g^* - \ker(\{x\}) = \{x\}$ and $\delta g^* - \ker(\{x\}) \in \delta G^* O(Z, \mathcal{K})$

2. Let B be any δg^*-open set of (Z, $\mathcal{K}$) containing the point $x = \{2n\} \in (Z)_E$, Then by Theorem 3.16., $\{x\} \cup (\cup\{x\})_0 \subseteq B$ hold and $\{x\} \cup (\cup\{x\})_0 \in \delta G^* O(Z, \mathcal{K})$ Thus we have $\delta g^* - \ker(\{x\}) = \cap(\{x\} / \{x\} \subseteq V \in \delta G^* O(Z, \mathcal{K})$ = $\{x\} \cup (\cup\{x\})_0 = \{2n-1, 2n, 2n+1\}$. Then $\{x\} \cup (\cup\{x\})_0$ is open in (Z, $\mathcal{K}$). The kernel $\delta g^* - \ker(\{x\}) \in \delta G^* O(Z, \mathcal{K})$

3.20 Theorem

1. If $x \in (Z)_0$, then $\delta g^* - cl(\{x\}) = \{2n, 2n+1, 2n+2\}$, where x = {2n+1}
2. If $x \in (Z)_E$, then $\delta g^* - cl(\{x\}) = \{x\}$,
3. If $x \in (Z)_0$, then $\delta g^* - int(\{x\}) = \{x\}$,
4. If $x \in (Z)_E$, then $\delta g^* - int(\{x\}) = \phi$.

Proof: Follows from the above proved results.

3.21 Proposition [14]

- The digital line (Z, $\mathcal{K}$) is ${}_{w\delta g^*}T_{\delta}$, ${}_{w\delta g^*}T_{\delta g^*}$ and ${}_{\delta g}T_{w\delta g^*}$-space
- In the digital line (Z, $\mathcal{K}$) the composition of δg^*-continuous functions is preserved. (By Proposition 4.2.17)
- In the digital line (Z, $\mathcal{K}$), every totally $w\delta g^*$ continuous function is totally δg^*-continuous. (By Proposition 4.7.5)
- In the digital line (Z, $\mathcal{K}$), every totally $w\delta g^*$ continuous function is strongly totally δg^*-continuous. (By Proposition 4.7.15)
- If a map f : (Z, $\mathcal{K}$) $\rightarrow$ (Y, σ) from the digital line (Z, K) is δ-closed and surjective δg^*-irresolute then (Y, σ) is also a digital line. (By theorem 5.2.23)
- In the digital line (Z, $\mathcal{K}$), the composition of δg^*-closed maps is preserved. (By proposition 6.2.17)
- In the digital line (Z, $\mathcal{K}$), the composition of δg^*-homeomorphisms is preserved. (By proposition 6.3.22)
- Every δg^*-homeomorphism from the digital line to the digital line is a homeomorphism. (By Theorem 6.3.21)
- Every δg^*-homeomorphism from the digital line to the digital line is a $\delta g^* c$-homeomorphism. (By Theorem 6.3.23)
- In the digital line (Z, $\mathcal{K}$), the composition of $w\delta g^*$-closed maps is preserved. (By proposition 6.4.17)
- Every $w\delta g^*$-homeomorphism from the digital line to the digital line is a homeomorphism. (By Theorem 6.5.27)
- In the digital line (Z, $\mathcal{K}$), $\delta G^* LC(X, \tau) = \delta LC(X, \tau) = \delta G^* LC^*(X, \tau) = \delta G^* LC^{**}(X, \tau)$ (By Proposition 7.2.9)
- In the digital line (Z, $\mathcal{K}$), δLC-continuity coincides with $\delta G^* LC$-continuity (resp. $\delta G^* LC^*$ continuity, $\delta G^* LC^{**}$-continuity) (By Proposition 7.3.7)
- In the digital line (Z, $\mathcal{K}$),
  (a) $\delta G^* LC$-continuity + contra δ continuity = $\delta G^* LC$-irresolute (By Proposition 7.3.12)
  (b) $\delta G^* LC^*$-continuity + contra δ continuity = $\delta G^* LC^*$-irresolute (By Proposition 7.3.14)
  (c) $\delta G^* LC$-continuity + contra δg^* irresolute = $\delta G^* LC$-irresolute (By Proposition 7.3.13)
- (Z, $\mathcal{K}$) is δg^* submaximal if and only if $\mathcal{P}(Z) = \delta G^* LC(Z, \mathcal{K})$ (By Proposition 7.2.26)
- (Z, $\mathcal{K}$) is δg^* submaximal every map in (Z,K) is $\delta G^* LC$-irresolute. (By Proposition 7.3.15)
- (Z, $\mathcal{K}$) is δg^* submaximal if and only if $\mathcal{P}(Z) = W\delta G^* LC(Z, \mathcal{K})$ (By Proposition 7.4.18)
- In the digital line (Z, $\mathcal{K}$), $W\delta G^* LC(X, \tau)$ = $\delta LC(X, \tau) = W\delta G^* LC^*(X, \tau) = W\delta G^* LC^{**}(X, \tau)$ (By Proposition 7.4.7)
- In the digital line (Z, $\mathcal{K}$) the following are equivalent
  (a) $A \in W\delta G^* LC(X, \tau)$
  (b) $A = U \cap w\delta g^* cl(A)$ for some $w\delta g^*$-open set U in (X, τ)
  (c) $w\delta g^* cl(A) - A$ is $w\delta g^*$-closed
  (d) $A \cup (X - w\delta g^* cl(A))$ is $w\delta g^*$ open (By Proposition 7.4.8)
- In the digital line (Z, $\mathcal{K}$),
  (a) $W\delta G^* LC$-continuity + contra δ continuity = $W\delta G^* LC^*$-irresolute (By Proposition 7.5.14)
  (b) $W\delta G^* LC^*$-continuity + contra δ continuity = $W\delta G^* LC^*$-irresolute (By Proposition 7.5.16)
  (c) $W\delta G^* LC$-continuity + contra $w\delta g^*$ irresolute = $W\delta G^* LC$-irresolute (By Proposition 7.5.15)
- In the digital line (Z, $\mathcal{K}$), δ-connectedness coincides with δg^*-connectedness (by Theorem 6.6.14).

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