Now we shall discuss some of the binary soft heriditary properties of τ_{Δ_i} (i= 0,1) spaces.

Theorem 3.21. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$ and $\tilde{\tilde{Y}} \tilde{\tilde{\subseteq}} \tilde{\tilde{X}}$. Then, if $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_0}-space then $(U_1, U_2, \tau_{\Delta_y}, E)$ is a binary soft τ_{Δ_0}-space.

Proof: $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{Y}}$ such that $F_e \neq G_e$. Then $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{X}}$. Since $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_0}-space, thus there exists binary soft open sets (F,E) and (G,E) in $(U_1, U_2, \tau_\Delta, E)$ such that $F_e \tilde{\tilde{\in}} (F, E)$ and $G_e \tilde{\tilde{\notin}} (F, E)$ or $G_e \tilde{\tilde{\in}} (G, E)$ and $F_e \tilde{\tilde{\notin}} (G, E)$. Therefore $F_e \tilde{\tilde{\in}} \tilde{\tilde{Y}} \tilde{\tilde{\cap}} (F, E) = {}^Y(F, E)$. Similarly it can be shown that if $G_e \tilde{\tilde{\in}} (G, E)$ and $F_e \tilde{\tilde{\notin}} (G, E)$, then $G_e \tilde{\tilde{\in}}^Y (G, E)$ and $F_e \tilde{\tilde{\notin}}^Y (G, E)$. Thus $(U_1, U_2, \tau_{\Delta_y}, E)$ is binary soft τ_{Δ_0}-space.

Theorem 3.22. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$ and $\tilde{\tilde{Y}} \tilde{\tilde{\subseteq}} \tilde{\tilde{X}}$. If $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_1}-space then $(U_1, U_2, \tau_{\Delta_y}, E)$ is a binary soft τ_{Δ_1}-space.

Proof: The proof is similar to the proof of Theorem 3.21.

Theorem 3.23. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$. If $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_2}-space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$, then $(U_1, U_2, \tau_{\Delta_e}, E)$ is a binary soft τ_{Δ_2}-space for each $e \tilde{\tilde{\in}} E$.

Proof: Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$. For any $e \tilde{\tilde{\in}} E$, $\tau_{\Delta_e} = \{F(e) : (F, E) \tilde{\tilde{\in}} \tau_\Delta\}$ is a binary soft topology on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$. Let $x, y \tilde{\tilde{\in}} \tilde{\tilde{X}}$ such that $x \neq y$, since $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_2}-space, therefore binary soft points $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{X}}$ such that $F_e \neq G_e$ and $x \tilde{\tilde{\in}} F(e)$, $y \tilde{\tilde{\in}} G(e)$, there exists binary soft open sets (F_1, E) and (F_2, E) such that

$F_e \tilde{\tilde{\in}} (F_1, E)$, $G_e \tilde{\tilde{\in}} (F_2, E)$ and $(F_1, E) \tilde{\tilde{\cap}} (F_2, E) = \tilde{\tilde{\phi}}$. Which implies that $x \tilde{\tilde{\in}} F(e) \tilde{\tilde{\subseteq}} F_1(e)$, $y \tilde{\tilde{\in}} G(e) \tilde{\tilde{\subseteq}} F_2(e)$ and $F_1(e) \tilde{\tilde{\cap}} F_2(e) = \tilde{\tilde{\phi}}$. This proves that $(U_1, U_2, \tau_{\Delta_e}, E)$ is a binary soft τ_{Δ_2}-space.

Theorem 3.24. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$ and $\tilde{\tilde{Y}} \tilde{\tilde{\subseteq}} \tilde{\tilde{X}}$. If $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_2}-space then $(U_1, U_2, \tau_{\Delta_y}, E)$ is a binary soft τ_{Δ_2}-space and $(U_1, U_2, \tau_{\Delta_e}, E)$ is a binary soft τ_{Δ_2}-space for each $e \tilde{\tilde{\in}} E$.

Proof: Let $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{Y}}$ such that $F_e \neq G_e$. Then $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{X}}$, since $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_2} therefore there exists binary soft open sets (F_1, E) and (F_2, E) such that $F_e \tilde{\tilde{\in}} (F_1, E)$, $G_e \tilde{\tilde{\in}} (F_2, E)$ and $(F_1, E) \tilde{\tilde{\in}} (F_2, E) = \tilde{\tilde{\phi}}$. Thus $F_e \tilde{\tilde{\in}} \tilde{\tilde{Y}} \tilde{\tilde{\cap}} (F_1, E) =^Y (F_1, E)$,

$G_e \tilde{\tilde{\in}} \tilde{\tilde{Y}} \tilde{\tilde{\cap}} (F_2, E) =^Y (F_2, E)$ and ${}^Y(F_2, E) \tilde{\tilde{\cap}} {}^Y(F_2, E) = \tilde{\tilde{\phi}}$. Thus it proves that $(U_1, U_2, \tau_{\Delta_y}, E)$ is a binary soft τ_{Δ_2}-space.

Theorem 3.25. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$. If $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_2}-space and for any two binary soft points $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{X}}$ such that $F_e \neq G_e$, then there exists binary soft closed sets (F_1, E) and (F_2, E) such that $F_e \tilde{\tilde{\in}} (F_1, E)$, $G_e \tilde{\tilde{\notin}} (F_1, E)$ and $F_e \tilde{\tilde{\notin}} (F_2, E)$, $G_e \tilde{\tilde{\in}} (F_2, E)$ and $(F_1, E) \tilde{\tilde{\cup}} (F_2, E) = \tilde{\tilde{X}}$.

Proof: Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$. Since $(U_1, U_2, \tau_\Delta, E)$ is binary soft τ_{Δ_2}-space and $F_e, G_e \tilde{\tilde{\in}} \tilde{\tilde{X}}$ such that $F_e \neq G_e$, there exists binary soft open sets (H, E) and (L, E) such that $F_e \tilde{\tilde{\in}} (H, E)$ and $G_e \tilde{\tilde{\in}} (L, E)$ and $(H, E) \tilde{\tilde{\cap}} (L, E) = \tilde{\tilde{\phi}}$. Clearly $(H, E) \tilde{\tilde{\subseteq}} (L, E)^c$ and $(L, E) \tilde{\tilde{\subseteq}} (H, E)^c$. Hence $F_e \tilde{\tilde{\in}} (L, E)^c$, put $(L, E)^c = (F_1, E)$ which gives $Fe \tilde{\tilde{\in}} (F_1, E)$ and $G_e \tilde{\tilde{\notin}} (F_1, E)$. Also $G_e \tilde{\tilde{\in}} (F_1, E)^c$, then put $(H, E)^c = (F_2, E)$. Therefore $F_e \tilde{\tilde{\in}} (F_1, E)$ and $G_e \tilde{\tilde{\in}} (F_2, E)$.

Morever $(F_1,E)\tilde{\tilde{\cup}}(F_2,E)=(L,E)^c\tilde{\tilde{\cup}}(H,E)^c=\tilde{\tilde{X}}$. Which completes the proof.

4. Binary Soft Regular, Binary Soft Normal and Binary Soft τ_{Δ_i} (i=4,3) Spaces

In this section, we define binary soft regular and binary soft τ_{Δ_3} - spaces using binary soft points. We also characterize binary soft regular and binary soft ormal spaces. Morever we prove that binary soft regular and binary soft τ_{Δ_3} properties are binary soft heriditary, where as binary soft normal and binary soft τ_{Δ_4} are binary soft closed heriditary properties.

Now we define binary soft regular space as follows:

Definition 4.1. Let (U_1,U_2,τ_Δ,E) be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1\times U_2)$. Let (F,E) be a binary soft closed set in (U_1,U_2,τ_Δ,E) and $F_e\tilde{\tilde{\in}}\tilde{\tilde{X}}$, such that $F_e\tilde{\tilde{\notin}}(F,E)$. If there exist binary soft open sets (G, E) and (H, E), such that $F_e\tilde{\tilde{\in}}(G,E)$, $(F,E)\tilde{\tilde{\subseteq}}(H,E)$ and $(G,E)\tilde{\tilde{\cap}}(H,E)=\tilde{\tilde{\phi}}$, then (U_1,U_2,τ_Δ,E) is called a binary soft regular space.

Theorem 4.2. Let (U_1,U_2,τ_Δ,E) be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1\times U_2)$. Then the following statements are equivalent:

(i) (U_1,U_2,τ_Δ,E) is binary soft regular.

(ii) For any binary soft open set (F,E) in (U_1,U_2,τ_Δ,E) and $G_e\tilde{\tilde{\in}}(F,E)$, there is a binary soft open set (G,E) containing G_e such that $G_e\tilde{\tilde{\in}}\overline{\overline{(G,E)}}\tilde{\tilde{\subseteq}}(F,E)$.

(iii) Each binary soft point in (U_1,U_2,τ_Δ,E) has a binary soft neighborhood base consisting of binary soft closed sets.

Proof: (i)$\Rightarrow$(ii)

Let (F,E) be a binary soft open set in (U_1,U_2,τ_Δ,E) and $G_e\tilde{\tilde{\in}}(F,E)$. Then $(F,E)^c$ is binary soft closed set such that $G_e\tilde{\tilde{\notin}}(F,E)^c$. By the binary soft regularity of (U_1,U_2,τ_Δ,E), there are binary soft open sets (F_1,E), (F_2,E) such that $G_e\tilde{\tilde{\in}}(F_1,E)$, $(F,E)^c\tilde{\tilde{\subseteq}}(F_2,E)$ and $(F_1,E)\tilde{\tilde{\cap}}(F_2,E)=\tilde{\tilde{\phi}}$. Clearly $(F_2,E)^c$ is a binary soft closed set contained in (F,E). Thus $(F_1,E)\tilde{\tilde{\subseteq}}(F_2,E)^c\tilde{\tilde{\subseteq}}(F,E)$. This gives $\overline{\overline{(F_1,E)}}\tilde{\tilde{\subseteq}}(F_2,E)^c\tilde{\tilde{\subseteq}}(F,E)$, put $(F_1,E)=(G,E)$. Consequently, $G_e\tilde{\tilde{\in}}(G,E)$ and $\overline{\overline{(G,E)}}\tilde{\tilde{\subseteq}}(F,E)$. This proves (ii).

(ii)$\Rightarrow$(iii)

Let $G_e\tilde{\tilde{\in}}\tilde{\tilde{X}}$, for binary soft open set (F,E) in (U_1,U_2,τ_Δ,E), there is a binary soft open set (G,E) containing G_e such that $G_e\tilde{\tilde{\in}}(G,E)$, $\overline{\overline{(G,E)}}\tilde{\tilde{\subseteq}}(F,E)$. Thus for each $G_e\tilde{\tilde{\in}}\tilde{\tilde{X}}$, the sets $\overline{\overline{(G,E)}}$ form a binary soft neighborhood base consisting of binary soft closed sets of (U_1,U_2,τ_Δ,E) which proves (3).

(iii)$\Rightarrow$(i)

Let (F,E) be a binary soft closed set such that $G_e\tilde{\tilde{\notin}}(F,E)$. Then $(F,E)^c$ is a binary soft open neighborhood of G_e. By (iii), there is binary soft closed set (F_1,E) which contains G_e and is a binary soft neighborhood of G_e with $(F_1,E)\tilde{\tilde{\subseteq}}(F_1,E)^c$. Then $G_e\tilde{\tilde{\notin}}(F,E)^c$, $(F,E)\tilde{\tilde{\subseteq}}(F_1,E)^c=(F_2,E)$ and $(F_1,E)\tilde{\tilde{\cap}}(F_2,E)=\tilde{\tilde{\phi}}$. Therefore (U_1,U_2,τ_Δ,E) is binary soft regular.

Theorem 4.3. Let (U_1,U_2,τ_Δ,E) be a binary soft regular space on $\tilde{\tilde{X}}$ over $(U_1\times U_2)$. Then every binary soft subspace of (U_1,U_2,τ_Δ,E) is binary soft regular.

Proof: Let $(U_1,U_2,\tau_{\Delta_y},E)$ be a binary soft subspace of a binary soft regular space (U_1,U_2,τ_Δ,E). Suppose, (F, E) is a binary soft closed set in $(U_1,U_2,\tau_{\Delta_y},E)$ and $F_e\tilde{\tilde{\in}}\tilde{\tilde{Y}}$ such that $F_e\tilde{\tilde{\notin}}(F,E)$. Then $(F,E)=(G,E)\tilde{\tilde{\cap}}\tilde{\tilde{Y}}$; where (G, E) is binary soft closed set in (U_1,U_2,τ_Δ,E). Then $F_e\tilde{\tilde{\notin}}(G,E)$, since (U_1,U_2,τ_Δ,E) is binary soft regular, there exists binary soft disjoint binary open sets $(F_1,E),(F_2,E)$ in (U_1,U_2,τ_Δ,E) such that $F_e\tilde{\tilde{\in}}(F_1,E)$, $(G,E)\tilde{\tilde{\subseteq}}(F_2,E)$. Clearly, $F_e\tilde{\tilde{\in}}(F_1,E)\tilde{\tilde{\cap}}\tilde{\tilde{Y}}={}^Y(F_2,E)$ and $(F,E)\tilde{\tilde{\subseteq}}(F_2,E)\tilde{\tilde{\cap}}\tilde{\tilde{Y}}={}^Y(F_2,E)$ such that ${}^Y(F_1,E)\tilde{\tilde{\cap}}$ ${}^Y(F_2,E)=\tilde{\tilde{\phi}}$. Therefore it proves that $(U_1,U_2,\tau_{\Delta_y},E)$ is a binary soft regular subspace of (U_1,U_2,τ_Δ,E).

Theorem 4.4. Let (U_1,U_2,τ_Δ,E) be a binary soft regular space on $\tilde{\tilde{X}}$ over $(U_1\times U_2)$. A binary space (U_1,U_2,τ_Δ,E) is binary soft regular if and only if for each

$F_e \,\tilde{\tilde{\in}}\, \tilde{\tilde{X}}$ and a binary soft closed set (F, E) in $(U_1, U_2, \tau_\Delta, E)$ such that $F_e \,\tilde{\tilde{\notin}}\, (F, E)$, there exist binary soft open sets $(F_1, E), (F_2, E)$ in $(U_1, U_2, \tau_\Delta, E)$ such that $F_e \,\tilde{\tilde{\in}}\, (F_1, E)$, $(F_1, E) \,\tilde{\tilde{\subseteq}}\, (F_2, E)$ and $\overline{\overline{(F_1, E)}} \,\tilde{\tilde{\cap}}\, \overline{\overline{(F_2, E)}} = \tilde{\tilde{\phi}}$.

Proof: For each $F_e \,\tilde{\tilde{\in}}\, \tilde{\tilde{X}}$ and a binary soft closed set (G, E) such that $F_e \,\tilde{\tilde{\notin}}\, (F, E)$, by Theorem 4.2 there is a binary soft open (G,E) such that $F_e \,\tilde{\tilde{\in}}\, (G, E)$, $\overline{\overline{(G, E)}} \,\tilde{\tilde{\subseteq}}\, (F_1, E)^c$. Again by Theorem 4.2 there is a binary soft open (F_1, E) containing F_e such that $\overline{\overline{(F_1, E)}} \,\tilde{\tilde{\subseteq}}\, (G, E)$. Let $(F_2, E) = (\overline{\overline{(G, E)}})^c$, then $\overline{\overline{(F_1, E)}} \,\tilde{\tilde{\subseteq}}\, (G, E) \,\tilde{\tilde{\subseteq}}\, \overline{\overline{(G, E)}} \,\tilde{\tilde{\subseteq}}\, (F, E)^c$ implies $(F, E) \,\tilde{\tilde{\subseteq}}\, (\overline{\overline{(G, E)}})^c = (F_2, E)$ or $(F, E) \,\tilde{\tilde{\subseteq}}\, (F_2, E)$.

Also

$$\overline{\overline{(F_1, E)}} \,\tilde{\tilde{\cap}}\, \overline{\overline{(F_2, E)}} = \overline{\overline{(F_1, E)}} \,\tilde{\tilde{\cap}}\, (\overline{\overline{(G, E)}})^c \,\tilde{\tilde{\subseteq}}\, (G, E) \,\tilde{\tilde{\cap}}\, (\overline{\overline{(G, E)}})^c \,\tilde{\tilde{\subseteq}}\, \overline{\overline{G, E) \,\tilde{\tilde{\cap}}\, (\overline{\overline{(G, E)}})^c}} = \overline{\overline{\tilde{\tilde{\phi}}}} = \phi$$

. Thus (F_1, E) , (F_2, E) are the requirred binary soft open sets in $(U_1, U_2, \tau_\Delta, E)$. This proves the necessity. The suffciency is immediate.

Definition 4.5. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$, (F,E)and (G,E) are binary soft closed sets over $(U_1 \times U_2)$ such that $(F, E) \,\tilde{\tilde{\cap}}\, (G, E) = \tilde{\tilde{\phi}}$. If there exist binary soft open sets (F_1, E) and (F_2, E) such that $(F, E) \,\tilde{\tilde{\subseteq}}\, (F_1, E)$, $(G, E) \,\tilde{\tilde{\subseteq}}\, (F_2, E)$ and $(F_1, E) \,\tilde{\tilde{\cap}}\, (F_2, E) = \phi$, then $(U_1, U_2, \tau_\Delta, E)$ is called a binary soft normal space.

Definition 4.6. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$. Then $(U_1, U_2, \tau_\Delta, E)$ is said to be binary soft τ_{Δ_3}-space if it is binary soft regular and a binary soft τ_{Δ_1}-space.

Remark 4.7. (i) A binary soft τ_{Δ_3}-space may not be a binary soft τ_{Δ_2}-space.

(ii) If $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_3}-space, then $(U_1, U_2, \tau_{\Delta_e}, E)$ may not be a binary soft τ_{Δ_3}-space for each parameter $e \,\tilde{\tilde{\in}}\, E$

Proposition 4.8. Let $(U_1, U_2, \tau_\Delta, E)$ be a binary soft topological space on $\tilde{\tilde{X}}$ over $(U_1 \times U_2)$ and $Y \,\tilde{\tilde{\subseteq}}\, \tilde{\tilde{X}}$. If $(U_1, U_2, \tau_\Delta, E)$ is a binary soft τ_{Δ_3}-space then

$(U_1,U_2,\tau_{\Delta_y},E)$ is a binary soft τ_{Δ_3}-space.

Definition 4.9. A binary soft topological space (U_1,U_2,τ_Δ,E) on $\tilde{\tilde{X}}$ over $(U_1\times U_2)$ is said to be a binary soft τ_{Δ_4}-space, if it is binary soft normal and binary soft τ_{Δ_1}-space.

Theorem 4.10. A binary soft topological space (U_1,U_2,τ_Δ,E) is binary soft normal if and only if for any binary soft closed set (F, E) and binary soft open set (G, E) such that $(F,E)\tilde{\tilde{\subseteq}}(G,E)$, these exist atleast one binary soft open set (H,E) containing (F,E) such that $(F,E)\tilde{\tilde{\subseteq}}(H,E)\tilde{\tilde{\subseteq}}\overline{\overline{(H,E)}}\tilde{\tilde{\subseteq}}(G,E)$.

Proof: Let us suppose that (U_1,U_2,τ_Δ,E) is a binary soft normal space and (F, E) is any binary soft closed subset of (U_1,U_2,τ_Δ,E) and (G,E) is a binary soft open set such that $(F,E)\tilde{\tilde{\subseteq}}(G,E)$. Then $(G,E)^c$ is binary soft closed and $(F,E)\tilde{\tilde{\cap}}(G,E)^c=\phi$. So by supposition, there are binary soft open sets (H,E) and (K,E) such that $(F,E)\tilde{\tilde{\subseteq}}(H,E)$, $(G,E)^c\tilde{\tilde{\subseteq}}(K,E)$ and $(H,E)\tilde{\tilde{\cap}}(K,E)=\tilde{\tilde{\phi}}$. Since $(H,E)\tilde{\tilde{\cap}}(K,E)=\tilde{\tilde{\phi}}$, $(H,E)\tilde{\tilde{\subseteq}}(K,E)^c$. But $(K,E)^c$ is binary soft closed, so that $(F,E)\tilde{\tilde{\subseteq}}(H,E)\tilde{\tilde{\subseteq}}\overline{\overline{(H,E)}}\tilde{\tilde{\subseteq}}(K,E)^c\tilde{\tilde{\subseteq}}(G,E)$.

Hence $(F,E)\tilde{\tilde{\subseteq}}(H,E)\tilde{\tilde{\subseteq}}\overline{\overline{(H,E)}}\tilde{\tilde{\subseteq}}(G,E)$.

Conversely, suppose that for every binary soft closed set (F, E) and a binary soft open set (G, E) such that $(F,E)\tilde{\tilde{\subseteq}}(G,E)$, there is a binary soft open set (H,E) such that $(F,E)\tilde{\tilde{\subseteq}}(H,E)\tilde{\tilde{\subseteq}}\overline{\overline{(H,E)}}\tilde{\tilde{\subseteq}}(G,E)$. Let (F_1,E), (F_2,E) be any two binary soft disjoint closed sets, then $(F_1,E)\tilde{\tilde{\subseteq}}(F_2,E)^c$ where $(F_2,E)^c$ is binary soft open . Hence there is a binary soft open set (H,E) such that $(F,E)\tilde{\tilde{\subseteq}}(H,E)\tilde{\tilde{\subseteq}}\overline{\overline{(H,E)}}\tilde{\tilde{\subseteq}}(F_2,E)^c$. But then $(F_2,E)\tilde{\tilde{\subseteq}}(\overline{\overline{(H,E)}})^c$ and $(H,E)\tilde{\tilde{\cap}}(\overline{\overline{(H,E)}})^c\neq\tilde{\tilde{\phi}}$.

Hence $(F_1,E)\tilde{\tilde{\subseteq}}(H,E)$ and $(F_2,E)\tilde{\tilde{\subseteq}}(\overline{\overline{(H,E)}})^c$ with $(H,E)\tilde{\tilde{\cap}}(\overline{\overline{(H,E)}})^c=\tilde{\tilde{\phi}}$. Hence (U_1,U_2,τ_Δ,E) is binary soft normal space.

Proposition 4.11. Let $(U_1,U_2,\tau_{\Delta_y},E)$ be binary soft subspace of a binary soft topological space (U_1,U_2,τ_Δ,E) and (F, E) be a binary soft open(closed) in

$(U_1, U_2, \tau_{\Delta_y}, E)$. If $\tilde{\tilde{Y}}$ is a binary soft open(closed) in $(U_1, U_2, \tau_\Delta, E)$, then (F, E) is binary soft open(closed) in $(U_1, U_2, \tau_\Delta, E)$.

Theorem 4.12. A binary soft closed subspace of a binary soft normal is binary soft normal.

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Competing Interests

The authors declare that no competing interests exist.

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