BAB I

KESIMPULAN

Dari pembahasan pada BAB III dapat disimpulkan bahwa :

1. Himpunan lembut kabur intuisionistik *hesitant* bernilai interval merupakan penggabungan dari himpunan kabur intuisionistik *hesitant* bernilai interval dan himpunan lembut.

2. Misalkan $(\widetilde{F}, A)$, $(\widetilde{G}, B)$, dan $(\widetilde{H}, C)$ merupakan himpunan lembut kabur intuisionistik *hesitant* bernilai interval. Berikut adalah definisi operasi-operasi himpunan lembut kabur intuisionistik *hesitant* bernilai interval dan sifat - sifatnya :

   (a) Komplemen dari himpunan lembut kabur intuitonistik *hesitant* bernilai interval $(\widetilde{F}, A)$, yang dinotasikan dengan $(\widetilde{F}, A)^c$, didefinisikan sebagai $(\widetilde{F}, A)^c = (\widetilde{F}^c, A)$ dimana $\widetilde{F}^c : \mathrm{A} \to \widetilde{H}(\mathrm{U})$ merupakan pemetaan yang didefinisikan $\widetilde{F}^c(e) = (\widetilde{F}(e))^c, \forall e \in A$.

   (b) Operasi " AND"

   $$(\widetilde{F}, A) \wedge (\widetilde{G}, B) = (\widetilde{H}, A \times B),$$

   dimana $\widetilde{H}(\alpha, \beta) = \widetilde{F}(\alpha) \cap \widetilde{G}(\beta), \forall (\alpha, \beta) \in A \times B$.

   (c) Operasi " OR"

   $$(\widetilde{F}, A) \wedge (\widetilde{G}, B) = (\widetilde{O}, A \times B),$$

   dimana $\widetilde{H}(\alpha, \beta) = \widetilde{F}(\alpha) \cup \widetilde{G}(\beta), \forall (\alpha, \beta) \in A \times B$.

(d) Hukum De Morgan

i. $((\widetilde{F},A)\wedge(\widetilde{G},B))^c = (\widetilde{F},A)^c \vee (\widetilde{G},B)^c$.

ii. $((\widetilde{F},A)\vee(\widetilde{G},B))^c = (\widetilde{F},A)^c \wedge (\widetilde{G},B)^c$.

(e) Hukum Assosiatif

i. $(\widetilde{F},A) \wedge ((\widetilde{G},B) \wedge (\widetilde{H},C)) = ((\widetilde{F},A) \wedge (\widetilde{G},B)) \wedge (\widetilde{H},C)$.

ii. $(\widetilde{F},A) \vee ((\widetilde{G},B) \vee (\widetilde{H},C)) = ((\widetilde{F},A) \vee (\widetilde{G},B)) \vee (\widetilde{H},C)$.

(f) Operasi Gabungan

i. $(\widetilde{F},A) \,\widetilde{\cup}\, (\widetilde{F},A) = (\widetilde{F},A)$.

ii. $(\widetilde{F},A) \,\widetilde{\cup}\, \widetilde{\Phi}_A = (\widetilde{F},A)$.

iii. $(\widetilde{F},A) \,\widetilde{\cup}\, \widetilde{U}_A = \widetilde{U}_A$.

iv. $(\widetilde{F},A) \,\widetilde{\cup}\, \widetilde{U}_B = \widetilde{U}_B$ jika dan hanya jika $A \subseteq B$.

v. $(\widetilde{F},A) \,\widetilde{\cup}\, \widetilde{\Phi}_A = (\widetilde{F},A)$ jika dan hanya jika $B \subseteq A$.

vi. $(\widetilde{F},A) \,\widetilde{\cup}\, (\widetilde{G},B) = (\widetilde{G},B) \,\widetilde{\cup}\, (\widetilde{F},A)$.

(g) Operasi Irisan

i. $(\widetilde{F},A) \,\widetilde{\cap}\, (\widetilde{F},A) = (\widetilde{F},A)$.

ii. $(\widetilde{F},A) \,\widetilde{\cap}\, \widetilde{\Phi}_A = \widetilde{\Phi}_A$.

iii. $(\widetilde{F},A) \,\widetilde{\cap}\, \widetilde{U}_A = (\widetilde{F},A)$.

iv. $(\widetilde{F},A) \,\widetilde{\cap}\, \widetilde{U}_B = (\widetilde{F},A \cap B)$.

v. $(\widetilde{F},A) \,\widetilde{\cap}\, \widetilde{\Phi}_A = \widetilde{\Phi}_{A\cap B}$.

vi. $(\widetilde{F},A) \,\widetilde{\cap}\, (\widetilde{G},B) = (\widetilde{G},B) \,\widetilde{\cap}\, (\widetilde{F},A)$.

(h) Operasi Gabungan *restricted*

i. $(\tilde{F}, A) \,\tilde{\cup}_R\, (\tilde{F}, A) = (\tilde{F}, A)$.

ii. $(\tilde{F}, A) \,\tilde{\cup}_R\, \tilde{\Phi}_A = (\tilde{F}, A)$.

iii. $(\tilde{F}, A) \,\tilde{\cup}_R\, \tilde{U}_A = \tilde{U}_A$.

iv. $(\tilde{F}, A) \,\tilde{\cup}_R\, \tilde{U}_B = \tilde{U}_{A \cap B}$.

v. $(\tilde{F}, A) \,\tilde{\cup}_R\, \tilde{\Phi}_B = (\tilde{F}, A \cap B)$.

vi. $(\tilde{F}, A) \,\tilde{\cup}_R\, (\tilde{G}, B) = (\tilde{G}, B) \,\tilde{\cup}_R\, (\tilde{F}, A)$.

(i) Operasi Irisan *extended*

i. $(\tilde{F}, A) \,\tilde{\cap}_E\, (\tilde{F}, A) = (\tilde{F}, A)$.

ii. $(\tilde{F}, A) \,\tilde{\cap}_E\, \tilde{\Phi}_A = \tilde{\Phi}_A$.

iii. $(\tilde{F}, A) \,\tilde{\cap}_E\, \tilde{U}_A = (\tilde{F}, A)$.

iv. $(\tilde{F}, A) \,\tilde{\cap}_E\, \tilde{U}_B = (\tilde{F}, A)$ *jika dan hanya jika* $B \subseteq A$.

v. $(\tilde{F}, A) \,\tilde{\cap}_E\, \tilde{\Phi}_B = \tilde{\Phi}_B$ *jika dan hanya jika* $A \subseteq B$.

vi. $(\tilde{F}, A) \,\tilde{\cap}_E\, (\tilde{G}, B) = (\tilde{G}, B) \,\tilde{\cap}_E\, (\tilde{F}, A)$.

(j) Hukum De Morgan

i. $((\tilde{F}, A) \,\tilde{\cup}\, (\tilde{G}, B))^c = (\tilde{F}, A)^c \,\tilde{\cap}_E\, (\tilde{G}, B)^c$.

ii. $((\tilde{F}, A) \,\tilde{\cap}_E\, (\tilde{G}, B))^c = (\tilde{F}, A)^c \,\tilde{\cup}\, (\tilde{G}, B)^c$.

iii. $((\tilde{F}, A) \,\tilde{\cup}_R\, (\tilde{G}, B))^c = (\tilde{F}, A)^c \,\tilde{\cap}\, (\tilde{G}, B)^c$.

iv. $((\tilde{F}, A) \,\tilde{\cap}\, (\tilde{G}, B))^c = (\tilde{F}, A)^c \,\tilde{\cup}_R\, (\tilde{G}, B)^c$.

(k) i. $(\tilde{F}, A) \,\tilde{\cap}_E\, ((\tilde{G}, B) \,\tilde{\cap}_E\, (\tilde{H}, C)) = ((\tilde{F}, A) \,\tilde{\cap}_E\, (\tilde{G}, B)) \,\tilde{\cap}_E\, (\tilde{H}, C)$.

ii. $(\tilde{F}, A) \,\tilde{\cup}\, ((\tilde{G}, B) \,\tilde{\cup}\, (\tilde{H}, C)) = ((\tilde{F}, A) \,\tilde{\cup}\, (\tilde{G}, B)) \,\tilde{\cup}\, (\tilde{H}, C)$.

(l) Operasi Average

$$(\widetilde{F}, A) \oplus (\widetilde{G}, B) = (\widetilde{H}, A \times B),$$

dimana $\widetilde{H}(\alpha, \beta) = \widetilde{F}(\alpha) \oplus \widetilde{G}(\beta), \forall(\alpha, \beta) \in A \times B.$

(m) Operasi Geometri

$$(\widetilde{F}, A) \otimes (\widetilde{G}, B) = (\widetilde{O}, A \times B),$$

dimana $\widetilde{O}(\alpha, \beta) = \widetilde{F}(\alpha) \otimes \widetilde{G}(\beta), \forall(\alpha, \beta) \in A \times B.$

(n) i. $((\widetilde{F}, A) \oplus (\widetilde{G}, B))^c = (\widetilde{F}, A)^c \otimes (\widetilde{G}, B)^c.$

ii. $((\widetilde{F}, A) \otimes (\widetilde{G}, B))^c = (\widetilde{F}, A)^c \oplus (\widetilde{G}, B)^c.$