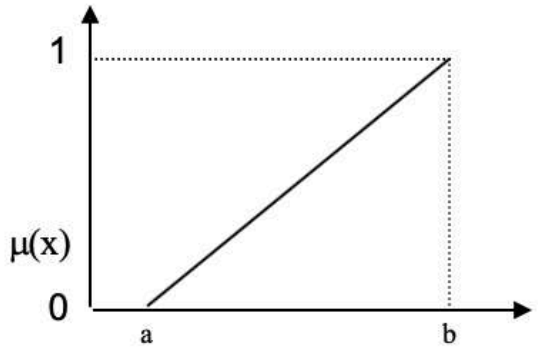
LOGIKA FUZZY

Pertemuan ke-3

Endang Sri Rahayu

Membership Function (kurva Linier)

a. Naik

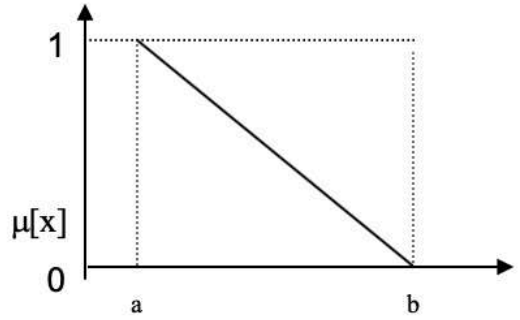


Gambar 14 Representasi Kurva Linear Naik

Fungsi Keanggotaan

$$\mu[x] = \begin{cases} 0 & ; x \le a \\ (x-a) / (b-a) & ; a \le x \le b \\ 1 & ; x \ge b \end{cases}$$

b. Turun

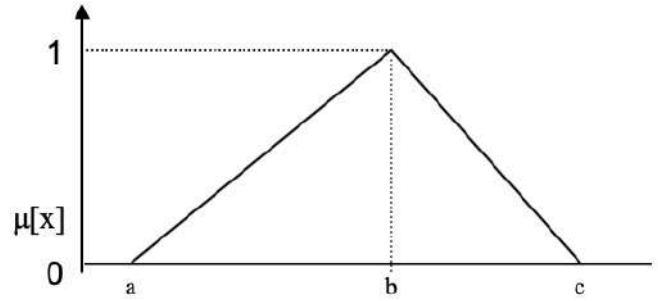


Gambar 15.Representasi Kurva Linear Turun

Fungsi Keanggotaan

$$\mu[x] = \begin{cases} 1 & ; x \leq a \\ (b-x) / (b-a) & ; a \leq x \leq b \\ 0 & ; x \geq b \end{cases}$$

Membership Function (kurva Segitiga)

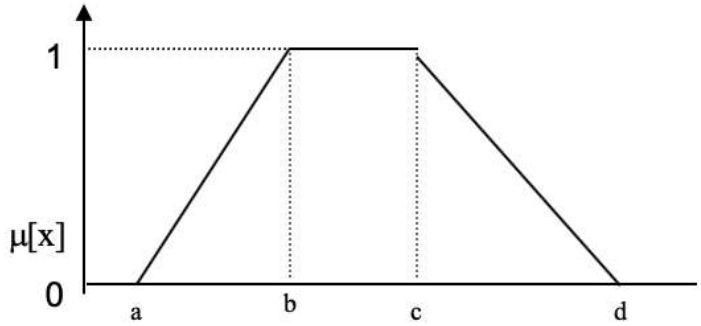


Gambar 16. Representasi Kurva Segitiga

Fungsi Keanggotaan

$$\mu[x] = \begin{cases} 0 & ; x \le a \\ (x-a)/(b-a) & ; a \le x \le b \\ (c-x)/(c-b) & ; b \le x \le c \\ 0 & ; x \ge c \end{cases}$$

Membership Function (kurva Trapesium)



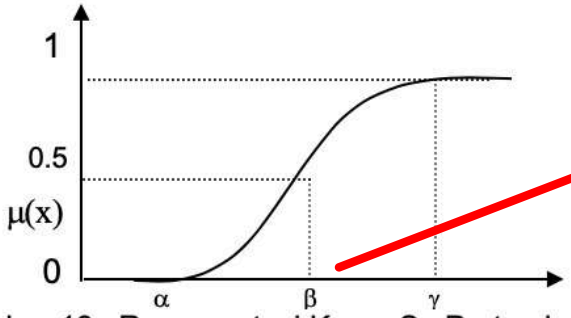
Gambar 17. Representasi Kurva Trapesium

Fungsi Keanggotaan

$$\mu[x] = \begin{cases} 0 & ; x \le a \\ (x-a) / (b-a) & ; a \le x \le b \\ 1 & ; b \le x \le c \\ (d-x) / (d-c) & ; c \le x \le d \\ 0 & ; x \ge d \end{cases}$$

Membership Function (kurva S)

a. Pertumbuhan



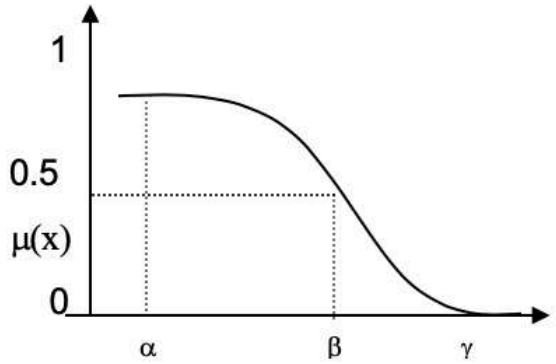
disebut Titik Infleksi

Gambar 18. Representasi Kurva S : Pertumbuhan

Fungsi Keanggotaan

$$\mu[x] = \begin{cases} 0 & ; x \le \alpha \\ 2((x-\alpha)/(\gamma-\alpha))^2 & ; \alpha \le x \le \beta \\ 1-2((\gamma-x)/(\gamma-\alpha))^2 & ; \beta \le x \le \gamma \\ 1 & ; x \ge \gamma \end{cases}$$

b. Penyusutan

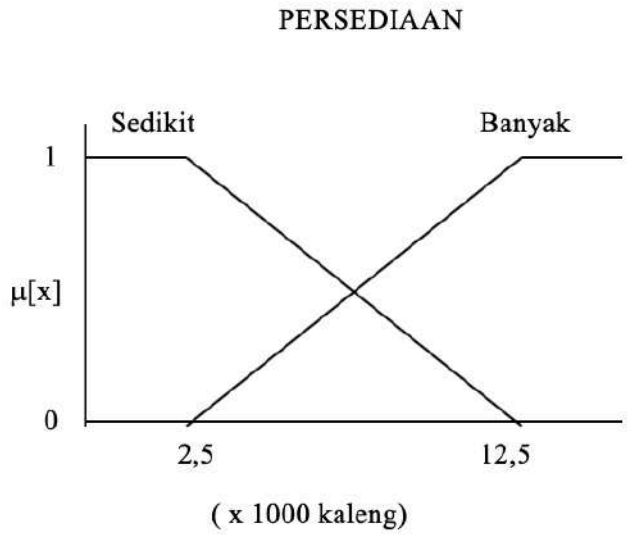


Gambar 22. Representasi Kurva S : Penyusutan

Fungsi Keanggotaan

$$\mu[x] = \begin{cases} 1 & ; x \le \alpha \\ 1-2((x-\alpha)/(\gamma-\alpha))^2 & ; \alpha \le x \le \beta \\ 2((\gamma-x)/(\gamma-\alpha))^2 & ; \beta \le x \le \gamma \\ 0 & ; x \ge \gamma \end{cases}$$

Contoh 1



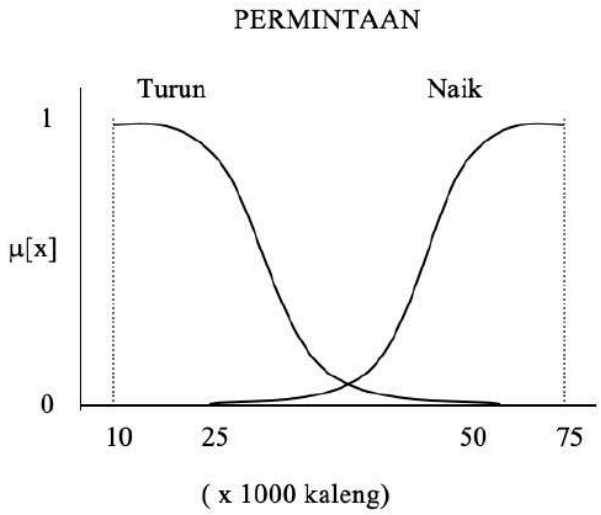
$\mu_{\text{PersediaanSedikit}}[10.000] = \ldots\ldots 0{,}25$

$\mu_{\text{PersediaanSedikit}}[4.000] = \ldots\ldots 0{,}85$

$\mu_{\text{PersediaanBanyak}}[10.000] = \ldots\ldots 0{,}75$

$\mu_{\text{PersediaanBanyak}}[4.000] = \ldots\ldots 0{,}15$

Contoh 2



$\mu_{\text{PermintaanTurun}}[40.000] = \ldots\ldots$

$\mu_{\text{PermintaanTurun}}[20.000] = \ldots\ldots$

$\mu_{\text{PermintaanNaik}}[60.000] = \ldots\ldots$

$\mu_{\text{PermintaanNaik}}[30.000] = \ldots\ldots$

Diskusi

- Memahami representasi kurva-kurva pada membership function
- Memahami bagaimana implementasi rumus dalam menyelesaikan kasus
- Memahami fungsi titik infleksi pada kurva S (Sigmoid)
- Selesaikan contoh kasus