

NAMA : Muhammad Aziiz Pranaja

NIM : 19051397030

PRODI : D4 Manajemen Informatika 19 A

- 1) P = (1,1), Akhir Q = (10,10) xmin, ymin, xmax, ymax = 1, 1, 7, 7

Garis P (1,1)

L = Karena $x < \text{xmin}$ atau $1 < 1 = 0$

R = Karena $x < \text{xmax}$ atau $1 < 7 = 0$ (0000)

B = Karena $y < \text{ymin}$ atau $1 < 1 = 0$

T = Karena $y < \text{ymax}$ atau $1 < 7 = 0$

Garis Q (10,10)

L = Karena $x < \text{xmin}$ atau $10 > 1 = 0$

R = Karena $x < \text{xmax}$ atau $10 > 7 = 1$ (0101)

B = Karena $y < \text{ymin}$ atau $10 > 1 = 0$

T = Karena $y < \text{ymax}$ atau $10 > 7 = 1$

Jadi karena region kode curva ujung garis pada (0000), maka perlu dipotong

Penentuan titik potong

$$M = \frac{y_2 - y_1}{x_2 - x_1} \quad P = (1,1) \quad Q = (10,10)$$

$$= \frac{10 - 1}{10 - 1} = 1 \quad P = (1,1) \text{ adalah } 0000$$

$$= 1 + 1 \times (0 - 1)$$

Yp1 = 0 (titik potong)

$$Xp1 = x_1 + \frac{y_{\text{min}} - y_1}{M} = 1 + \frac{1 - 1}{1} = 1$$

Titik potong adalah (1,1)

Region code Q (10,10) 1010

$$yp2 = y_1 + M \times (xmax - x_1) = 10 + 1 (7 - 10) = 7$$

titik potong (7,7)

$$xp2 = x_1 + \frac{ymax - y_1}{M} = 1 + \frac{7 - 1}{1} = 7$$

titik potong nya adalah (7,7)

titik potong garis yaitu (1,0), (1,1), (7,7), (7,7)

viewport (1,1) dan (7,7)

- 2) P (1,1) Q (10,10)

X1 = 1, xr = 7, yb = 1 dan yt = 7

dx = x2 - x1

$$= 10 - 1 = 9$$

$$P_1 = -dx$$

$$= -9$$

$$P_2 = dx$$

$$= 9$$

$$P_3 = -dy$$

$$= -9$$

$$P_4 = dy$$

$$= 9$$

$$\Delta y = y_2 - y_1$$

$$= 10 - 1 = 9$$

$$Q_1 = x_1 - x_2$$

$$= 1 - 1 = 0$$

$$Q_2 = X_R - X_1$$

$$= 7 - 1$$

$$= 6$$

$$Q_3 = y_1 - y_B$$

$$= 1 - 1 = 0$$

$$Q_4 = y_T - y_1$$

$$= 7 - 1 = 6$$

$$\rightarrow Q_1 / P_1 = 0 / -9$$

$$\rightarrow Q_2 / P_2 = 6 / 9$$

$$= 2/3$$

$$\rightarrow Q_3 / P_3 = 0 / -9$$

$$= 0$$

$$\rightarrow Q_4 / P_4 = 6 / 9$$

$$= 2/3$$

Untuk ($p_i < 0$) $T_1 = (0, 0, 0) = 0$

Untuk ($p_i < 0$) $T_2 = (2/3, 2/3, 2/3,) = 2/3$

$T_1 < T_2$

$$T_1 = 0$$

$$X_1 = x_1 + dx \times t_1$$

$$= 1 + 9 \times 0$$

$$= 1 + 0$$

$$X_1 = 1$$

$$Y_1 = y_1 + dy \times t_1$$

$$= 1 + 9 \times 0$$

$$= 1$$

$$\rightarrow (x_1, y_1) = (1, 1)$$

$$T_2 = \frac{2}{3}$$

$$X_2 = x_1 + dx \times t_2$$

$$\begin{aligned} &= 1 + 3 \times \frac{2}{3} \\ &= 1 + 6 \\ X_2 &= 7 \end{aligned}$$

$$\begin{aligned} Y_2 &= y_1 + dy \times t_2 \\ &= 1 + 9 \times \frac{2}{3} \\ Y_2 &= 7 \\ (x_2, y_2) &= (7, 7) \end{aligned}$$