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D4 Manajemen Informatika 2019A

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

Garis P (1,1)

L = Karena $x < x_{min}$ atau $1 < 1 = 0$

R = Karena $x < x_{max}$ atau $1 < 7 = 0$ (0000)

B = Karena $y < y_{min}$ atau $1 < 1 = 0$

T = Karena $y < y_{max}$ atau $1 < 7 = 0$

Garis Q (10,10)

L = Karena $x < x_{min}$ atau $10 > 1 = 0$

R = Karena $x < x_{max}$ atau $10 > 7 = 1$ (0101)

B = Karena $y < y_{min}$ atau $10 > 1 = 0$

T = Karena $y < y_{max}$ atau $10 > 7 = 1$

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

Penentuan titik potong

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

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

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

$y_{p1} = 0$ (titik potong)

$$x_{p1} = x_1 + \frac{y_{min} - y_1}{M} = 1 + \frac{1-1}{1} = 1$$

Titik potong adalah (1,1)

Region code Q (10,10) 1010

$$y_{p2} = y_1 + M \times (x_{max} - x_1) = 10 + 1 \times (7 - 10) = 7$$

titik potong (7,7)

$$x_{p2} = x_1 + \frac{y_{max} - y_1}{M} = 10 + \frac{7-10}{1} = 7$$

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)

$$x_1 = 1, x_r = 7, y_b = 1 \text{ dan } y_t = 7$$

$$dx = x_2 - x_1$$

$$= 10 - 1 = 9$$

$$P_1 = -dx$$

$$= -9$$

$$P_2 = dx$$

$$= 9$$

$$P_3 = -dy$$

$$= -9$$

$$P_4 = dy$$

$$= 9$$

$$dy = y_2 - y_1$$

$$= 10 - 1 = 9$$

$$Q_1 = x_1 - x_2$$

$$= 1 - 1 = 0$$

$$Q_2 = X_R - X_1$$

$$= 7 - 1$$

$$= 6$$

$$Q_3 = y_1 - y_B$$

$$= 1 - 1 = 0$$

$$Q_4 = y_T - y_1$$

$$= 7 - 1 = 6$$

$$\rightarrow Q_1 / p_1 = 0 / -9$$

$$\rightarrow Q_2 / p_2 = 6 / 9$$

$$= 2/3$$

$$\rightarrow Q_3 / p_3 = 0 / -9$$

$$= 0$$

$$\rightarrow Q_4 / p_4 = 6 / 9$$

$$= 2/3$$

$$\text{Untuk } (p_i < 0) T_1 = (0, 0, 0) = 0$$

$$\text{Untuk } (p_i < 0) T_2 = (2/3, 2/3, 2/3) = 2/3$$

$$T_1 < T_2$$

$$T_1 = 0$$

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

$$= 1 + 9 \times 0$$

$$= 1 + 0$$

$$X_1 = 1$$

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

$$= 1 + 9 \times 0$$

$$= 1$$

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

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

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

$$= 1 + 3 \times \frac{2}{3}$$

$$= 1 + 6$$

$$X_2 = 7$$

$$Y_2 = y_1 + dy \times t_2$$

$$= 1 + 9 \times \frac{2}{3}$$

$$Y_2 = 7$$

$$(x_2, y_2) = (7, 7)$$