

Nama : Novan Ari Pradana
NIM : 19051397013
Kelas : D4 M12A

1.) Ditetahui

Titik awal $P = (1,1)$

Titik akhir $Q = (10,10)$

$$x_{\min} = 1$$

$$y_{\min} = 1$$

$$x_{\max} = 7$$

$$y_{\max} = 7$$

Jawab:

Garis P

$$L = 0$$

$$R = 0$$

$$B = 0$$

$$T = 0$$

Garis Q

$$L = 0$$

$$R = 1$$

$$B = 0$$

$$T = 1$$

Sehingga region code dari

$$P = 0000$$

$$Q = 0101$$

$$\rightarrow 0000 \text{ AND } 0101 = 0000$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{10 - 1}{10 - 1} = \frac{9}{9} = 1$$

$$x_{p_1} = x_1 + \frac{y_{\min} - y_1}{m}$$

$$= 1 + \frac{1 - 1}{1} = \frac{1 + 0}{1}$$

$$= \frac{1}{1}$$

$$x_{p_1} = 1$$

maka titik potongnya adalah $(x_{p_1}, y_{\min}) = (1, 1)$

$$2-) \text{ Diket : } x_l = 1 \\ x_r = 7 \\ y_b = 1 \\ y_t = 7$$

$$P = (1, 1) \\ Q = (10, 10)$$

Jawab :

$$dx = x_2 - x_1 \quad dy = y_2 - y_1 \\ = 10 - 1 \quad = 10 - 1 \\ dx = 9 \quad = 9$$

$$\rightarrow P_1 = -dx \quad \rightarrow q_1 = x_1 - x_l \quad \rightarrow q_4 = y_t - y_l \\ P_1 = -9 \quad = 1 - 1 \quad = 7 - 1 \\ \rightarrow P_2 = dx \quad q_1 = 0 \quad = 6 \\ P_2 = 9$$

$$\rightarrow P_3 = -dy \quad \rightarrow q_2 = x_r - x_1 \\ P_3 = -9 \quad = 7 - 1 \quad q_2 = 6$$

$$- P_4 = dy \quad \rightarrow q_3 = y_1 - y_b \\ P_4 = 9 \quad = 1 - 1 \\ = 0$$

$$a.) \frac{a_1}{P_1} = \frac{0}{-9} = -9$$

$$b.) \frac{a_2}{P_2} = \frac{6}{9} = \frac{2}{3}$$

$$c.) \frac{a_3}{P_3} = \frac{0}{-9} = 0$$

$$d.) \frac{a_4}{P_4} = \frac{6}{9} = \frac{2}{3}$$

$$\text{untuk } (P_i < 0) T_1 = \text{"max"} (0, 0, 0) = 0$$

$$\text{untuk } (P_i > 0) T_2 = \min \left(\frac{2}{3}, \frac{2}{3}, 1 \right) = \frac{2}{3}$$

$$\text{Jadi, } T_1 < T_2$$

$$T_1 = 0$$

$$x_1' = x_1 + dx \cdot t_1 \\ = 1 + 9 \cdot 0 \\ = 1 + 0$$

$$x_1' = 1$$

$$y_1' = y_1 + dy \cdot t_1 \\ = 1 + 9 \cdot 0 \\ = 1$$

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

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

$$x_2' = x_1 + dx \cdot t_2 \\ = 1 + 9 \cdot \frac{2}{3} \\ = 1 + 6$$

$$x_2' = 7$$

$$y_2' = y_1 + dy \cdot t_2 \\ = 1 + 9 \cdot \frac{2}{3} \\ = 7$$

$$y_2' = 7$$

$$\rightarrow (x_2', y_2') = (7, 7)$$