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$$\begin{aligned} \text{titik awal} &= P(1,1) \\ \text{titik akhir} &= Q(10,10) \end{aligned}$$

$$\begin{aligned} \text{Clipping } x_{\min} &= 1 \\ y_{\min} &= 1 \\ x_{\max} &= 7 \\ y_{\max} &= 7 \end{aligned}$$

Selesaikan dengan clipping Cohen Sutherland.

jawab:

$$\bullet P(1,1)$$

$$\begin{aligned} L &= 0, & X &= x_{\min} & 1 &= 1 \\ R &= 0, & X &= x_{\max} & 1 &< 7 \\ B &= 0, & y &= y_{\min} & 1 &= 1 \\ T &= 0, & y &< y_{\max} & 1 &< 7 \end{aligned} \quad \left. \vphantom{\begin{aligned} L &= 0, \\ R &= 0, \\ B &= 0, \\ T &= 0, \end{aligned}} \right\} \text{Region code} = 0,0,0,0$$

$$\bullet Q(10,10)$$

$$\begin{aligned} L &= 0, & X &> x_{\min} & 10 &> 1 \\ R &= 1, & X &> x_{\max} & 10 &> 7 \\ B &= 0, & y &> y_{\min} & 10 &> 1 \\ T &= 1, & y &> y_{\max} & 10 &> 7 \end{aligned} \quad \left. \vphantom{\begin{aligned} L &= 0, \\ R &= 1, \\ B &= 0, \\ T &= 1, \end{aligned}} \right\} \text{Region code} = 0,1,0,1$$

titik potong \rightarrow garis PQ bersifat Fully Visible sehingga tidak perlu di potong.

$$\begin{aligned} 2. \text{ titik awal} &= P(1,1) \\ \text{titik akhir} &= Q(10,10) \end{aligned}$$

$$x_1 = 1$$

$$x_r = 7$$

$$y_b = 1$$

$$y_t = 7$$

Selesaikan dengan Clipping Garis Liang - Barsky!

$$\begin{aligned} dx &= x_2 - x_1 & p_1 &= -dx & p_2 &= dx & p_3 &= -dy & p_4 &= dy \\ &= 10 - 1 & &= -9 & &= 9 & &= -9 & &= 9 \\ &= 9 & & & & & & & & \end{aligned}$$

$$\begin{aligned} dy &= y_2 - y_1 \\ &= 10 - 1 \\ &= 9 \end{aligned}$$

$$\begin{aligned} a_1 &= x_1 - x_L \\ &= 1 - 1 \\ &= 0 \end{aligned}$$

$$\begin{aligned} q_2 &= x_R - x_1 \\ &= 7 - 1 \\ &= 6 \end{aligned}$$

$$\begin{aligned} q_3 &= y_1 - y_B \\ &= 1 - 1 \\ &= 0 \end{aligned}$$

$$\begin{aligned} q_4 &= y_T - y_1 \\ &= 7 - 1 \\ &= 6 \end{aligned}$$

maka, $\frac{q_1}{p_1} = \frac{0}{-9}$ $\frac{q_2}{p_2} = \frac{6}{9}$ $\frac{q_3}{p_3} = \frac{0}{-9}$ $\frac{q_4}{p_4} = \frac{6}{9}$

Max 0 $\left. \begin{array}{l} T_1 < T_2 \\ T_1 = 0 \end{array} \right\}$

Min $\frac{6}{9}$

$$\begin{aligned} x_1' &= x_1 + dx^* t_1 \\ &= 1 + 9^* 0 \\ &= 1 \end{aligned}$$

$$\begin{aligned} y_1' &= y_1 + dy^* t_1 \\ &= 1 + 9^* 0 \\ &= 1 \end{aligned}$$

$$(x_1', y_1') = (0, 0)$$

$$T_2 = 6/9$$

$$\begin{aligned} x_2' &= x_1 + dx^* t_2 \\ &= 1 + 9^* \frac{6}{9} \\ &= 7 \end{aligned}$$

$$\begin{aligned} y_2' &= y_1 + dy^* t_2 \\ &= 1 + 9^* \frac{6}{9} \\ &= 7 \end{aligned}$$

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