

Cohen Sutherland Algo (Line Clipping)

- 1) Assign a region code for each point.
- 2) If both endpoints have region code 0000 then trivially accept the line.
- 3) else,
perform logical AND operation on both region codes.
 - 3.1 - If the result is not 0000 then trivially reject the line.
 - 3.2. else //(result = 0000, needs clipping)
 - 3.2.1 Choose an endpoint of the line that is outside the window.
 - 3.2.2. Find the intersection point at the window boundary (based on region code).
 - 3.2.3. Replace endpoint with intersection point and update the region code.
 - 3.2.4. Repeat Step 2.
- 4) Repeat step 1 for other lines.

3.2.2 To calc intersection point:

$$y = y_1 + m(x - x_1)$$

(or)

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

$$x = x_1 + \frac{y - y_1}{m}$$

ie.

$$(y - y_1) = m(x - x_1)$$

(x_1, y_1) are any point on the line.

either $x \in \{x_{\min}, x_{\max}\}$

then find $y =$

else if $y \in \{y_{\min}, y_{\max}\}$

then find $x =$