



Spans:

[6.....6]

[4.5.....6.3333]

[3.....6.6667]

[1.5.....7]

[0.....7.3333]

1) Sort vertices by y -value. So,

$$P_0 = (x_0, y_0) = (6, 9)$$

$$P_1 = (x_1, y_1) = (0, 5)$$

$$P_2 = (x_2, y_2) = (9, 0)$$

Note, as long as you're consistent it doesn't matter if you sort in ascending or descending order.

2) Split triangle in two, to guarantee that each triangle either has a horizontal top or bottom!

3) Compute Δx_{left} and Δx_{right} for a unit change in y along the two edges.

(In this case, $\Delta x_{\text{left}} = -1.5$ and $\Delta x_{\text{right}} = 0.3333$ for the upper triangle.)

4) Start from the top (or bottom), fill in the span, and for each subsequent y -span, incrementally compute

$$x_{\text{min}} = x_{\text{min-old}} + (\text{or } -) \Delta x_{\text{left}} \quad \text{and}$$

$$x_{\text{max}} = x_{\text{max-old}} + (\text{or } -) \Delta x_{\text{right}}$$