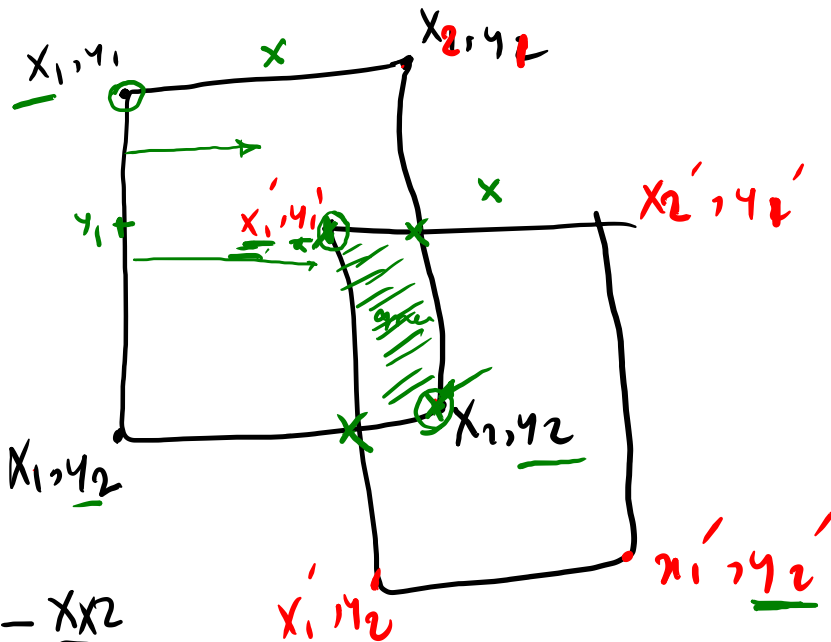


$$x_1 \rightarrow \min(x_1, x_1') \rightarrow x_1$$

$$x_1 \rightarrow \max(x_1, 0) \rightarrow \underline{x_1 = 0}$$

0

$$\text{boxes} \Rightarrow \left[ \left[ \frac{x_1}{0}, y_1, x_2, y_2 \right], \left[ \underline{x_1}, y_1, x_2, y_2 \right] \right]$$



$$\underline{wms} \rightarrow \underline{Lou}$$

$$Lou \rightarrow \frac{\text{مساحة مشتركة}}{\text{مساحة المثلث}}$$

$$\underline{\min}(y_2, y_2') \rightarrow y_2$$

$$\underline{\max}(x_1, x_1') \rightarrow x_1'$$

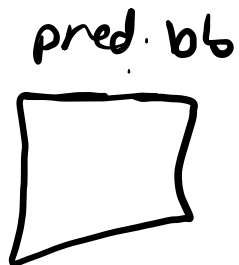
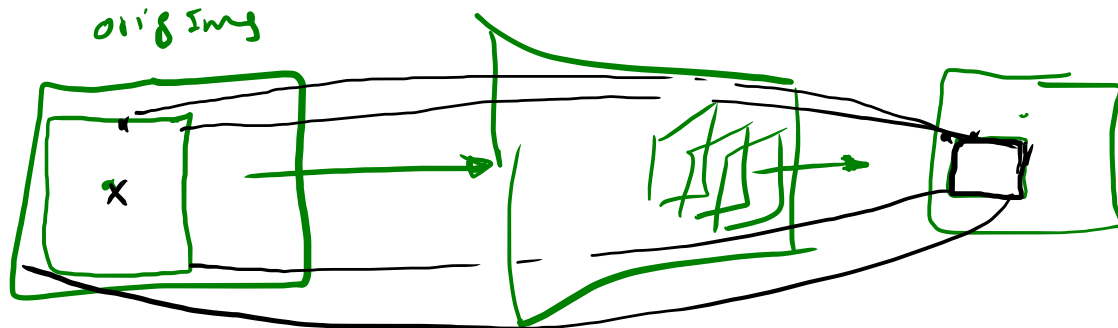
$$\rightarrow \boxed{\underline{x_1, y_1}, \underline{x_2, y_2}}$$

$\underline{xx_1} \quad \underline{yy_1} \quad \underline{xx_2} \quad \underline{yy_2}$

$$w = \underline{xx_1 - xx_2}$$

$$h = \underline{|x_1' - x_1|}$$

area: wh



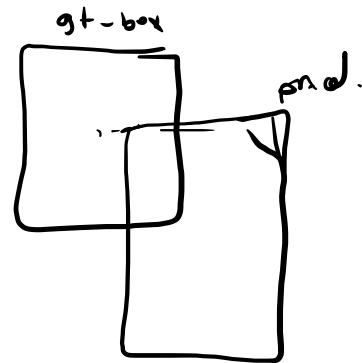
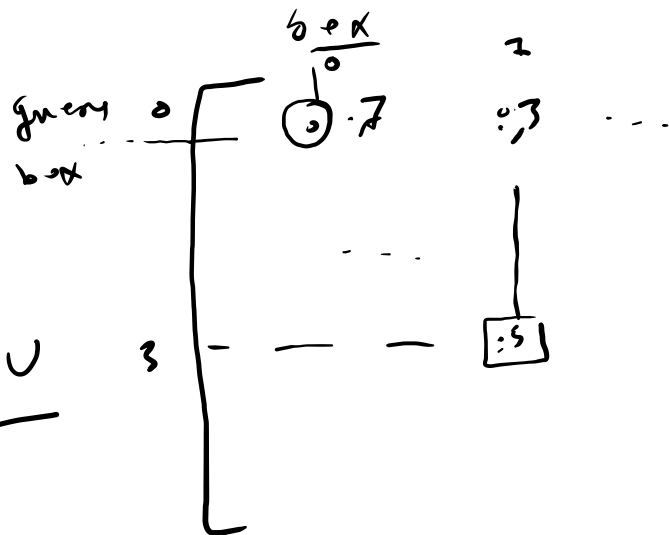
$$\left[ \begin{array}{c} \underline{[0, 9, 8, 4]}, \\ [8, 7, 6, 7] \end{array} \right]$$

—  
—  
—  
—  
—

$$[1, 0]$$

$$[0, 8, \dots]$$

IOU



unmap

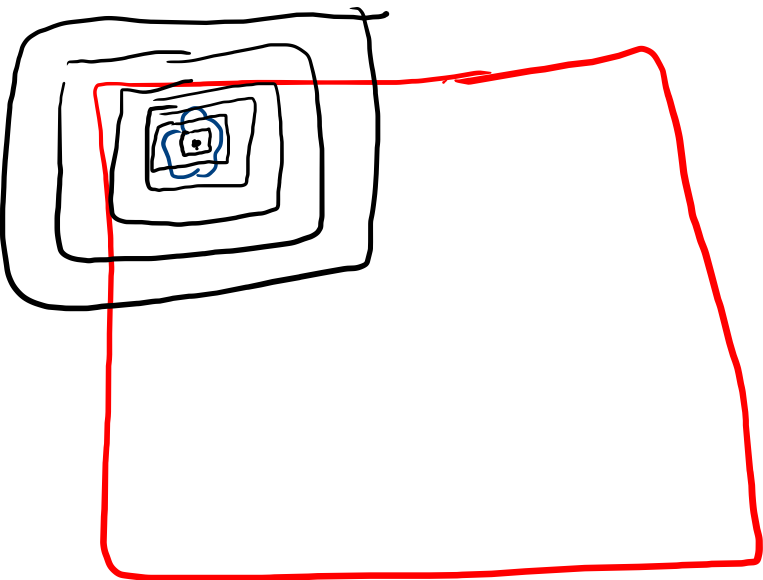
ind: [2, 1, 0]

count: 5

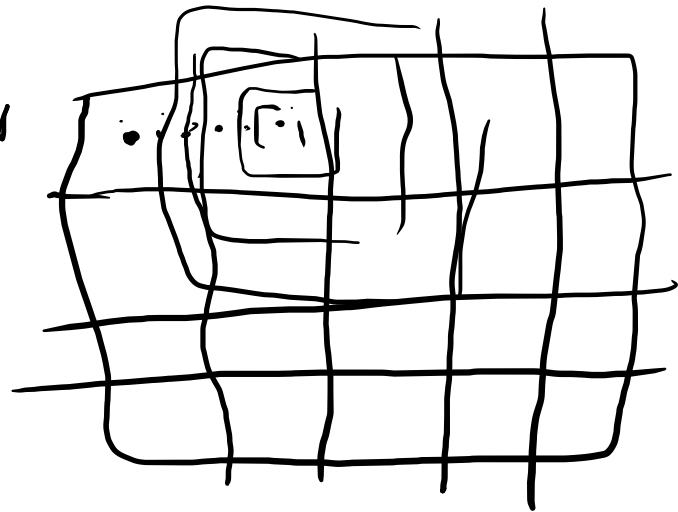
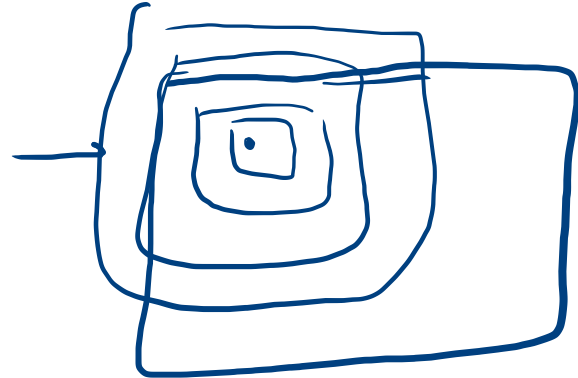
fill: 0

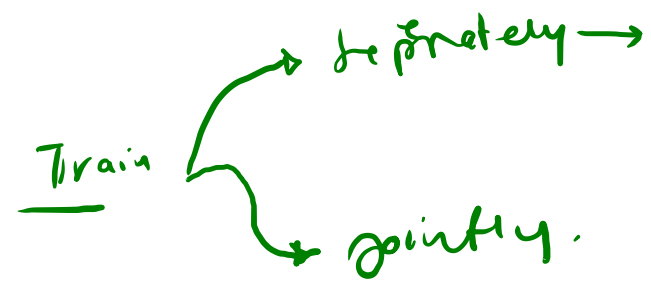
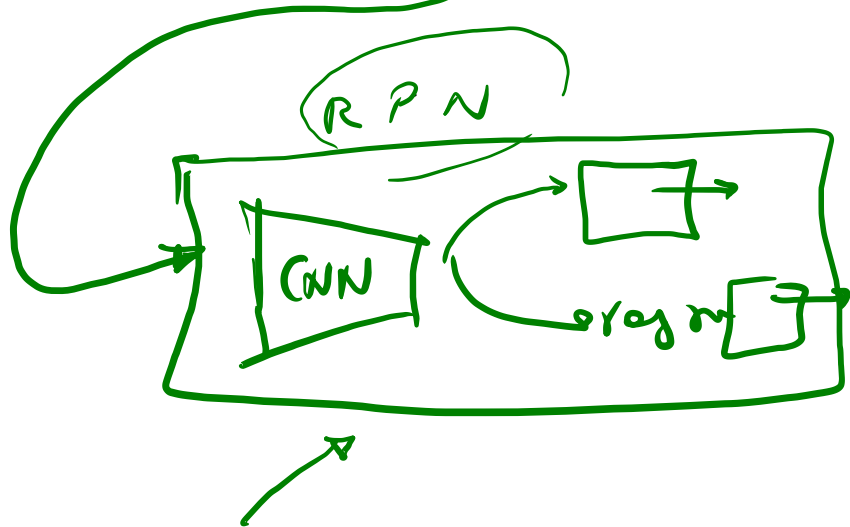
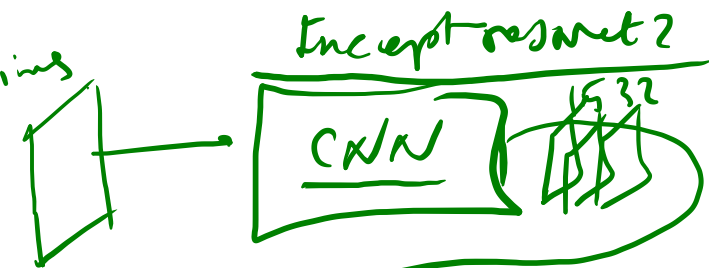
arr [8, 7, 6]

[6, 7, 8, 0, 0]



$k=9$







$$\underline{\text{shift-x}} = [\underline{2}, \underline{5}, \underline{7}]$$

$$\underline{\text{shift-y}} = [\underline{1}, \underline{2}, \underline{9}]$$

meshgrid (shiftx, shify)

