

Contour  $\rightarrow$  Curve joining all Continuous points have same Color and intensity

For more accuracy  $\Rightarrow$  use binary image

### Contour steps

① RGB img  $\rightarrow$  gray img

② threshold

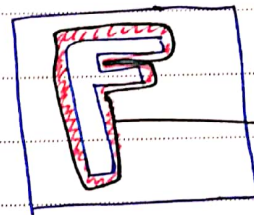
noise  $\rightarrow$  smooth

③

Find Contour

④

Draw Contour



Contour

CV2. findContours (  $\text{img}$ ,  $\text{threshold}$ ,  $\text{method}$ ,  $\text{CV\_RETR\_tree}$ ,  $\text{CV\_CHAIN_APPROX\_None}$  )

Contours (x,y)  
information (hierarchy)

All Contours

CV2. drawContours (  $\text{original img}$ ,  $\text{Contours}$ ,  $-1$ ,  $(255, 255, 0)$ ,  $2$  )

line detection  $\rightarrow$  Hough Lines

① img

② gray color

③ noise removal

Canny (img,  $\text{min threshold}$ ,  $\text{Max threshold}$ )

④ line  $\rightarrow$  array

CV2. HoughLine (  $\text{Rho}$ ,  $\text{theta}$  )

$\downarrow$   
step  
by pixel

$\downarrow$   
step by  
angle