In [ ]:

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import numpy as np
import cv2

image = cv2.imread(r"C:\Users\siris\OneDrive\Desktop\images\ex3.png")
result = image.copy()

image = cv2.cvtColor(image, cv2.COLOR_BGR2HSV)
lower = np.array([0,0,0])
upper = np.array([255,255,245])
mask = cv2.inRange(image, lower, upper)

kernel = cv2.getStructuringElement(cv2.MORPH_RECT, (3,3))
opening = cv2.morphologyEx(mask, cv2.MORPH_OPEN, kernel, iterations=1)
close = cv2.morphologyEx(opening, cv2.MORPH_CLOSE, kernel, iterations=2)

cnts = cv2.findContours(close, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_SIMPLE)
cnts = cnts[0] if len(cnts) == 2 else cnts[1]

boxes = []
for c in cnts:
    (x, y, w, h) = cv2.boundingRect(c)
    boxes.append([x,y, x+w,y+h])

boxes = np.asarray(boxes)
left = np.min(boxes[:,0])
top = np.min(boxes[:,1])
right = np.max(boxes[:,2])
bottom = np.max(boxes[:,3])

result[close==0] = (255,255,255)
ROI = result[top:bottom, left:right].copy()
#cv2.rectangle(result, (left,top), (right,bottom), (36, 255, 12), 2)

#result= cv2.resize(result,None,fx=0.3,fy=0.3)
#close = cv2.resize(close,None,fx=0.3,fy=0.3)
#ROI = cv2.resize(ROI,None,fx=0.3,fy=0.3)
#cv2.imshow('result', result)
cv2.imshow('ROI', ROI)
#cv2.imshow('close', close)
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#cv2.imwrite('result.png', result)
#cv2.imwrite('ROI.png', ROI)

cv2.waitKey()
cv2.destroyAllWindows()
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