Image Extraction

***GIVEN MATERIAL:***

Extract Green Boxes from given image and paste it in another directory.

***GIVEN IMAGE:***



***CODE:***

# Import relevant libraries

import cv2

import os

from matplotlib import pyplot as plt

import numpy as np

from PIL import Image

image = cv2.imread(r'C:\Users\Angshuman Bardhan\Desktop\PI.jpg', -1)

# convert to gray and binarize

gray\_img = cv2.cvtColor(image, cv2.COLOR\_BGR2GRAY)

binary\_img = cv2.adaptiveThreshold(gray\_img, 255, cv2.ADAPTIVE\_THRESH\_MEAN\_C, cv2.THRESH\_BINARY, 9, 9)

# note: erosion and dilation works on white forground

binary\_img = cv2.bitwise\_not(binary\_img)

# dilate the image

kernel = cv2.getStructuringElement(cv2.MORPH\_RECT, (1,1))

dilated\_img = cv2.morphologyEx(binary\_img, cv2.MORPH\_DILATE, kernel,iterations=1)

# find contours, discard contours which do not belong to a rectangle

(cnts, \_) = cv2.findContours(dilated\_img.copy(), cv2.RETR\_LIST, cv2.CHAIN\_APPROX\_SIMPLE)

sq\_cnts = [] # contours of interest to us

print(str(len(cnts)))

for cnt in cnts:

approx = cv2.approxPolyDP(cnt,0.01\*cv2.arcLength(cnt,True),True)

#cv2.drawContours(image,[approx],0,(0,255,0),1)

x=approx.ravel()[0]

y=approx.ravel()[1]

if len(approx)==4:

x, y, w, h = cv2.boundingRect(cnt)

aspectratio=float(w)/h

if aspectratio >=1.0 and aspectratio<=1.20:

if x>220 and x!=395:

sq\_cnts.append(approx)

print(len(sq\_cnts))#No. of Selected Squares which are the green boxes which is 12

f=""

directory = r'C:\Users\Angshuman Bardhan\Desktop\TEST FOLDER'#for new folder location

cv2.drawContours(image,sq\_cnts,-1,(0,0,255),1)#outline in red color

cv2.imshow("GREEN BOXES",image)#bordering the green boxes and displaying

for i in range(len(sq\_cnts)):

(x, y, w, h) = cv2.boundingRect(sq\_cnts[i])

print(x,y,w,h)

newimg=image[y:y+h,x:x+w] # crop the image

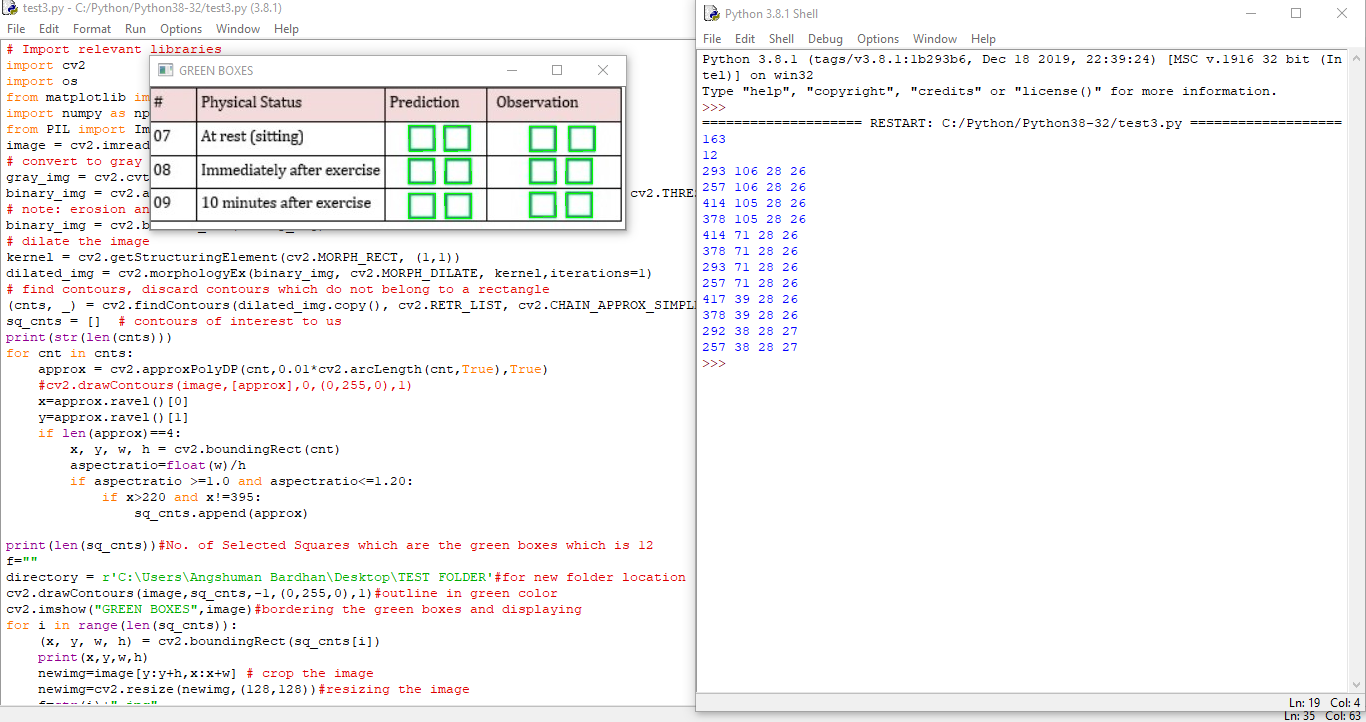
newimg=cv2.resize(newimg,(128,128))#resizing the image

f=str(i)+".jpg"

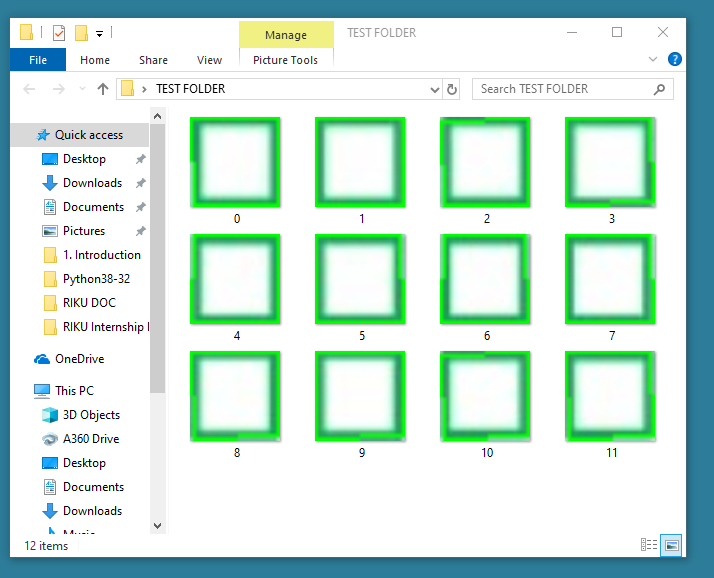
os.chdir(directory)

cv2.imwrite(f, newimg)# writing the image in a different directory

***OUTPUT AND SCREENSHOT:***

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***NEW FOLDER DESTINATION OF GREEN BOXES***

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