R. No:2117100 Program Number:2

P Name: Write a python program to perform the following with respect to an image using OpenCV library Date:07-09-2022 -----------------------------------------------------------------------------------------------------------------------------------------------------------a) **Read a colour image, convert it into grey scale image. Increase and decrease the contrast and display all the three images and save.**

import cv2

import numpy as np

import os

directory='E:/lab/'

try:

os.mkdir(directory)

except Exception as e:

print(e)

img = cv2.imread(r'Downloads\original.jpg')

cv2.imshow('original',img)

imghsv = cv2.cvtColor(img, cv2.COLOR\_BGR2HSV)

imghsv[:,:,2] = [[max(pixel\*2, 0) if pixel < 190 else min(pixel \*-2, 255) for pixel in row] for row in imghsv[:,:,2]]

cv2.imshow('contrast',cv2.cvtColor(imghsv, cv2.COLOR\_HSV2BGR))

cv2.imwrite(directory+"new.jpg",img)

cv2.imwrite(directory+"new1.jpg",imghsv)

cv2.waitKey(0)

**Output:**

g) **Get a better information about an image by changing the perspective of an image.**

import cv2

import numpy as np

import matplotlib.pyplot as plt

width,height=150,250

image = cv2.imread(r'Downloads\t.jpg')

pts1=np.float32([[13,80],[165,6],[79,187],[235,104]])

pts2=np.float32([[0,0],[width,0],[0,height],[width,height]])

matrix=cv2.getPerspectiveTransform(pts1,pts2)

output=cv2.warpPerspective(image,matrix,(width,height))

**Output:**

