

In [*]:

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import cv2
import numpy as np
import pandas as pd
img_path = "C:\\Users\\racha\\OneDrive\\Desktop\\Datascience\\color palette.jpg"
img = cv2.imread(img_path)
img = cv2.resize(img, (700, 500))
clicked = False
r = g = b = xpos = ypos = 0
index = ["color", "color_name", "hex", "R", "G", "B"]
csv = pd.read_csv("C:\\Users\\racha\\OneDrive\\Desktop\\Datascience\\colors.csv", names=index)
def getColorName(R, G, B):
    minimum = 10000
    for i in range(len(csv)):
        d = abs(R - int(csv.loc[i, "R"])) + abs(G - int(csv.loc[i, "G"])) + abs(B - int(csv.loc[i, "B"]))
        if d <= minimum:
            minimum = d
            cname = csv.loc[i, "color_name"]
    return cname
def draw_function(event, x, y, flags, param):
    global b, g, r, xpos, ypos, clicked
    if event == cv2.EVENT_LBUTTONDOWN:
        clicked = True
        xpos = x
        ypos = y
        b, g, r = img[y, x]
        b = int(b)
        g = int(g)
        r = int(r)
cv2.namedWindow("Color Detection Prediction")
cv2.setMouseCallback("Color Detection Prediction", draw_function)
while True:
    cv2.imshow("Color Detection Prediction", img)
    if clicked:
        cv2.rectangle(img, (20, 20), (750, 60), (b, g, r), -1)
        text = getColorName(r, g, b) + ' R=' + str(r) + ' G=' + str(g) + ' B=' + str(b)
        cv2.putText(img, text, (50, 50), cv2.FONT_HERSHEY_SIMPLEX, 0.8, (255, 255, 255), 2, cv2.LINE_AA)
        if r + g + b >= 600:
            cv2.putText(img, text, (50, 50), cv2.FONT_HERSHEY_SIMPLEX, 0.8, (0, 0, 0), 2, cv2.LINE_AA)
        clicked = False
    if cv2.waitKey(20) & 0xFF == 27:
        break
cv2.destroyAllWindows()
```