Color Identification in Images

In [*]:

```
import cv2
import pandas as pd
```

In [*]:

```
img_path = 'colorpic.jpg'
csv_path = 'colors.csv'
```

In [3]:

```
# reading csv file
index = ['color', 'color_name', 'hex', 'R', 'G', 'B']
df = pd.read_csv(csv_path, names=index, header=None)
```

In [*]:

```
# reading image
img = cv2.imread(img_path)
img = cv2.resize(img, (800,600))
```

In [*]:

```
#declaring global variables
clicked = False
r = g = b = xpos = ypos = 0
```

In [*]:

```
#function to calculate minimum distance from all colors and get the most matching color
def get_color_name(R,G,B):
    minimum = 1000
    for i in range(len(df)):
        d = abs(R - int(df.loc[i,'R'])) + abs(G - int(df.loc[i,'G'])) + abs(B - int(df.loc[
        if d <= minimum:
            minimum = d
            cname = df.loc[i, 'color_name']

    return cname
```

In [*]:

```
#function to get x,y coordinates of mouse double click
def draw_function(event, x, y, flags, params):
    if event == cv2.EVENT_LBUTTONDBLCLK:
        global b, g, r, xpos, ypos, clicked
        clicked = True
        xpos = x
        ypos = y
        b,g,r = img[y,x]
        b = int(b)
        g = int(g)
        r = int(r)
```

In [*]:

```
# creating window
cv2.namedWindow('image')
cv2.setMouseCallback('image', draw_function)
```

In [*]:

```
while True:
    cv2.imshow('image', img)
    if clicked:
        #cv2.rectangle(image, startpoint, endpoint, color, thickness)-1 fills entire rectan
        cv2.rectangle(img, (20,20), (600,60), (b,g,r), -1)

        #Creating text string to display( Color name and RGB values )
        text = get_color_name(r,g,b) + ' R=' + str(r) + ' G=' + str(g) + ' B=' + str(b)
        #cv2.putText(img,text,start,font(0-7),fontScale,color,thickness,lineType )
        cv2.putText(img, text, (50,50), 2,0.8, (255,255,255),2,cv2.LINE_AA)

        #For very light colours we will display text in black colour
        if r+g+b >=600:
            cv2.putText(img, text, (50,50), 2,0.8, (0,0,0),2,cv2.LINE_AA)

    if cv2.waitKey(20) & 0xFF == 27:
        break

cv2.destroyAllWindows()
```

Thank You So much