In [1]:
```
pip install pandas opencv-python
```

```
Requirement already satisfied: pandas in c:\users\dell\anaconda3\lib\site-packages (1.2.4)
Requirement already satisfied: opencv-python in c:\users\dell\anaconda3\lib\site-packages (4.5.2.54)
Requirement already satisfied: numpy>=1.17.3 in c:\users\dell\anaconda3\lib\site-packages (from opencv-python) (1.20.1)
Requirement already satisfied: python-dateutil>=2.7.3 in c:\users\dell\anaconda3\lib\site-packages (from pandas) (2.8.1)
Requirement already satisfied: pytz>=2017.3 in c:\users\dell\anaconda3\lib\site-packages (from pandas) (2021.1)
Requirement already satisfied: six>=1.5 in c:\users\dell\anaconda3\lib\site-packages (from python-dateutil>=2.7.3->pandas) (1.15.0)
Note: you may need to restart the kernel to use updated packages.
```

In [2]:
```
import cv2   # import open-cv module
img = cv2.imread('colourpic 1.jpg')   # read image from device
```

In [3]:
```
import pandas as pd    # import pandas module
#Reading csv file with pandas and giving names to each column
index=["color","color_name","hex","R","G","B"]        # indexing the csv file data
csv = pd.read_csv('colors.csv', names=index, header=None)    # read colors csv file
```

In [4]:
```
clicked = False
r = g = b = xpos = ypos = 0  # initialize the color and position variables
```

In [5]:
```
def draw_function(event, x,y,flags,param):
    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 [6]:
```
cv2.namedWindow('image')   # window caption
cv2.setMouseCallback('image',draw_function)
```

In [7]:
```
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
```

In [ ]:
```
while(1):
    cv2.imshow("image",img)
    if (clicked):
        #cv2.rectangle(image, startpoint, endpoint, color, thickness) -1 thickness fills rectangle entirely
        cv2.rectangle(img,(20,20), (750,60), (b,g,r), -1)

        #Creating text string to display ( Color name and RGB values )
        text = getColorName(r,g,b) + ' R='+ str(r) + ' G='+ str(g) + ' B='+ str(b)

        #cv2.putText(img,text,start,font(0-7), fontScale, color, thickness, lineType, (optional bottomLeft bool) )
        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)
        clicked=False

    #Break the loop when user hits 'esc' key
    if cv2.waitKey(20) & 0xFF ==27:
        break
cv2.destroyAllWindows()
```

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