The Sparks Foundation

Task 2 : Color Detector

By

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In [83]:
```
import pandas as pd
import cv2
```

In [84]:
```
img_path= 'pic1.jpg'
csv_path = 'colors.csv'
```

In [85]:
```
index=["color", "color_name", "hex", "R", "G", "B"]
csv = pd.read_csv('colors.csv', names=index,header=None)
```

In [86]:
```
img = cv2.imread(img_path)
img = cv2.resize(img, (800,600))
```

In [87]:
```
clicked = False
r = g = b = x_pos = y_pos = 0
```

In [88]:
```
def get_color_name(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 -
        if d <= minimum:
            minimum = d
            cname = csv.loc[i, "color_name"]
    return cname
```

In [89]:
```
def draw_function(event, x, y, flags, param):
    if event == cv2.EVENT_LBUTTONDOWN:
        global b, g, r, x_pos, y_pos, clicked
        clicked = True
        x_pos = x
        y_pos = y
        b, g, r = img[y, x]
        b = int(b)
        g = int(g)
        r = int(r)
```

In [90]:
```
cv2.namedWindow('image')
cv2.setMouseCallback('image', draw_function)
```

In [91]:

```
while True:

    cv2.imshow("image", img)
    if clicked:

        cv2.rectangle(img, (20, 20), (750, 60), (b, g, r), -1)

        text = get_color_name(r, g, b) + ' R=' + str(r) + ' G=' + str(g) + ' B=' + s

        cv2.putText(img, text, (50, 50), 2, 0.8, (255, 255, 255), 2, cv2.LINE_AA)

        if r + g + b >= 600:
            cv2.putText(img, text, (50, 50), 2, 0.8, (0, 0, 0), 2, cv2.LINE_AA)

        clicked = False

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

cv2.destroyAllWindows()
```

In [ ]: