

```
1  # taking a picture to test the camera
2
3  import cv2
4  import numpy as np
5  import RPi.GPIO as GPIO
6
7  # initalize variables
8  code_running=True
9
10 # quit button
11 GPIO.setmode(GPIO.BCM)
12 GPIO.setup(17, GPIO.IN, pull_up_down=GPIO.PUD_UP)
13
14 def GPIO17_call_back(channel):
15     global code_running
16     code_running=False
17
18 cap = cv2.VideoCapture(0) #video capture source camera
19
20
21 while(code_running):
22
23     # capture current frame
24     ret,frame = cap.read()
25
26     # display captured frame
27     cv2.imshow('img1',frame)
28
29     # set values for base color
30     b=frame[:, :, :1]
31     g=frame[:, :, 1:2]
32     r=frame[:, :, 2:]
33
34     # computing mean
35     b_mean=np.mean(b)
36     g_mean=np.mean(g)
37     r_mean=np.mean(r)
38
39     # display prominent color
40     if (r_mean > g_mean and r_mean > b_mean):
41         print("Red")
42     elif (g_mean > r_mean and g_mean > b_mean):
43         print("Green")
44     else:
45         print("Blue")
```

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46
47
48     # release video and close windows
49     cv2.waitKey(0)
50     cap.release()
51     cv2.destroyAllWindows()
52
53
54
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