

```
from __future__ import division

import PIL
from PIL import Image
import time
import picamera
import RPi.GPIO as GPIO

#initialisation des ports pour les moteurs

GPIO.setmode(GPIO.BCM)
led=24
GPIO.setwarnings(False)
GPIO.setup(led,GPIO.OUT)
led1=22
GPIO.setwarnings(False)
GPIO.setup(led1,GPIO.OUT)
#Paramètre de précisions des
width=100
height=100
nb=5
x=0
while x<=6000000:
# Capture the image in raw RGB format
    with picamera.PiCamera() as camera:
        camera.resolution = (width, height)
        camera.start_preview()
```

```

time.sleep(0.5)

camera.capture("images.jpg")

#obtention du pixel

im = Image.open("images.jpg")

i=1

j=1

r= im.getpixel((width/2 - nb, height/2 - nb))[0]

g = im.getpixel((width/2 - nb, height/2 - nb))[1]

b = im.getpixel((width/2 - nb, height/2 - nb))[2]

a=0

#Calcul de la couleur moyenne au centre de l'image

while i <= nb:

    while j <= nb:

        r = r + im.getpixel((width/2 - nb + i, height/2 - nb + j))[0]

        g = g + im.getpixel((width/2 - nb + i, height/2 - nb + j))[1]

        b = b + im.getpixel((width/2 - nb + i, height/2 - nb + j))[2]

        j = j+1

    r = r + im.getpixel((width/2 - nb + i, height/2 - nb + j))[0]

    g = g + im.getpixel((width/2 - nb + i, height/2 - nb + j))[1]

    b = b + im.getpixel((width/2 - nb + i, height/2 - nb + j))[2]

    i = i+1

r, g, b = r/((nb)*(nb)), g/((nb)*(nb)), b/((nb)*(nb))

```

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#Condition permettant de commander les moteurs
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if (r > (10 + g)) and (r > (10 + b)):
```

```
    #print 'init1'
```

```
    for num in range (1,3):
```

```
        GPIO.output(led1,GPIO.LOW)
```

```
        #time.sleep(1)
```

```
        GPIO.output(led1,GPIO.HIGH)
```

```
elif (b > r + 10) and (b > g + 10):
```

```
    #print 'init2'
```

```
    for num in range (1,3):
```

```
        GPIO.output(led,GPIO.LOW)
```

```
        #time.sleep(1)
```

```
        GPIO.output(led,GPIO.HIGH)
```

```
else:
```

```
    GPIO.output(led1,GPIO.LOW)
```

```
    GPIO.output(led,GPIO.LOW)
```

```
time.sleep(1)
```

```
x=x+1
```