

Assignment -3

Hazardous Area Monitoring for Industrial Plant powered by IoT

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Aim:

To write a python code for blinking LED and Traffic lights for Raspberry Pi.

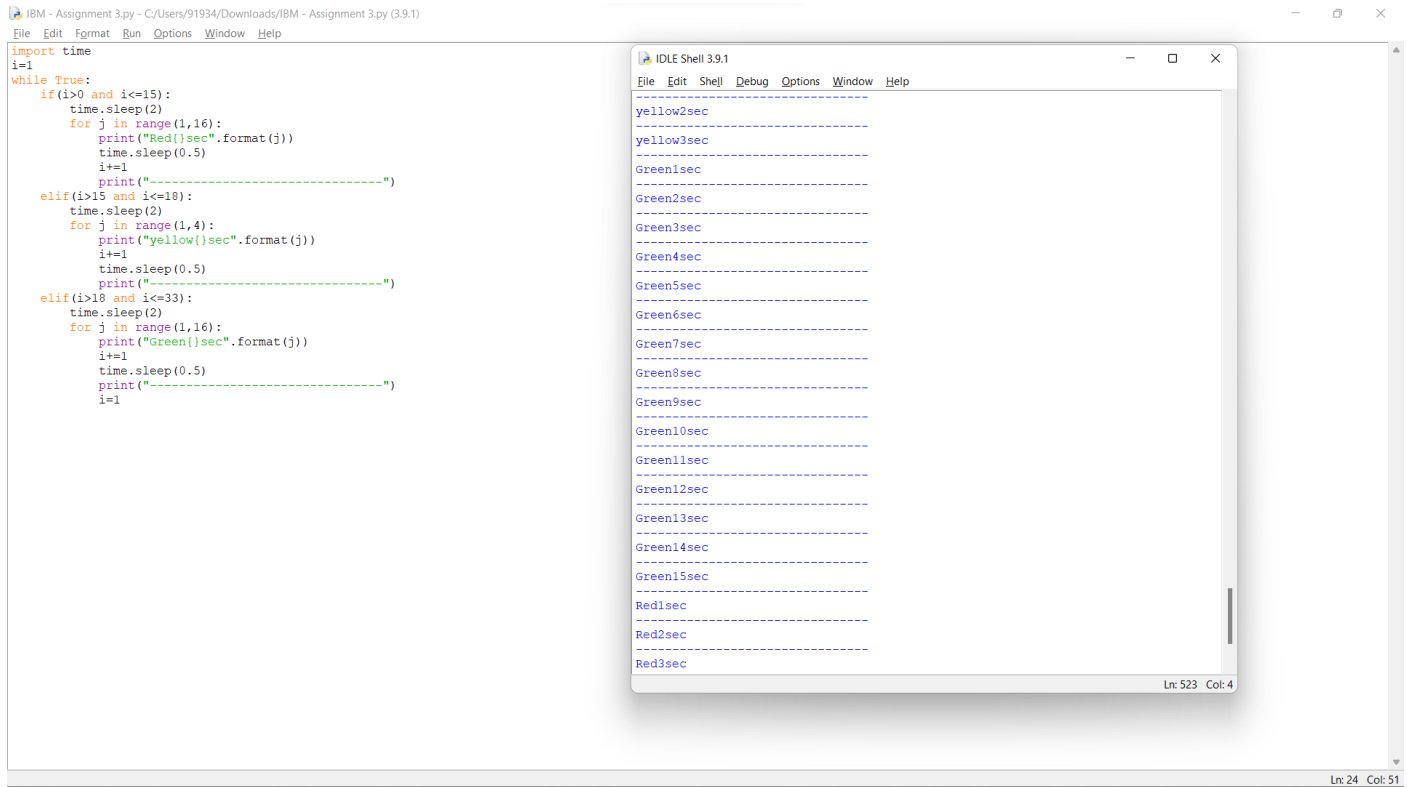
Software used:

Python IDLE 3.10.7 (64 bit)

Python Code:

```
import time
i=1
while True:
    if(i>0 and i<=15):
        time.sleep(2)
        for j in range(1,16):
            print("Red{ }sec".format(j))
            time.sleep(0.5)
            i+=1
        print("-----")
    elif(i>15 and i<=18):
        time.sleep(2)
        for j in range(1,4):
            print("yellow{ }sec".format(j))
            i+=1
            time.sleep(0.5)
        print("-----")
    elif(i>18 and i<=33):
        time.sleep(2)
        for j in range(1,16):
            print("Green{ }sec".format(j))
            i+=1
            time.sleep(0.5)
        print("-----")
        i=1
```

Simulation:



The screenshot displays a Python IDE with a script titled 'IBM - Assignment 3.py'. The script is a simulation for traffic lights, using a while loop and conditional statements to control the duration of red, yellow, and green lights. A separate window titled 'IDLE Shell 3.9.1' shows the output of the script, which lists the duration of each light in seconds, separated by dashed lines. The output shows a sequence of yellow, green, and red light durations, with the green light duration being the longest (15 seconds) and the red light duration being the shortest (3 seconds).

```
import time
i=1
while True:
    if (i>0 and i<=15):
        time.sleep(2)
        for j in range(1,16):
            print("Red{}sec".format(j))
            time.sleep(0.5)
            i+=1
        print("-----")
    elif (i>15 and i<=18):
        time.sleep(2)
        for j in range(1,4):
            print("yellow{}sec".format(j))
            i+=1
            time.sleep(0.5)
        print("-----")
    elif (i>18 and i<=33):
        time.sleep(2)
        for j in range(1,16):
            print("Green{}sec".format(j))
            i+=1
            time.sleep(0.5)
        print("-----")
        i=1
```

yellow2sec

yellow3sec

Green1sec

Green2sec

Green3sec

Green4sec

Green5sec

Green6sec

Green7sec

Green8sec

Green9sec

Green10sec

Green11sec

Green12sec

Green13sec

Green14sec

Green15sec

Red1sec

Red2sec

Red3sec

Ln: 523 Col: 4

Ln: 24 Col: 51

Result:

Thus, I have successfully compiled a python code for blinking LED and Traffic Lights for Raspberry Pi.