

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.

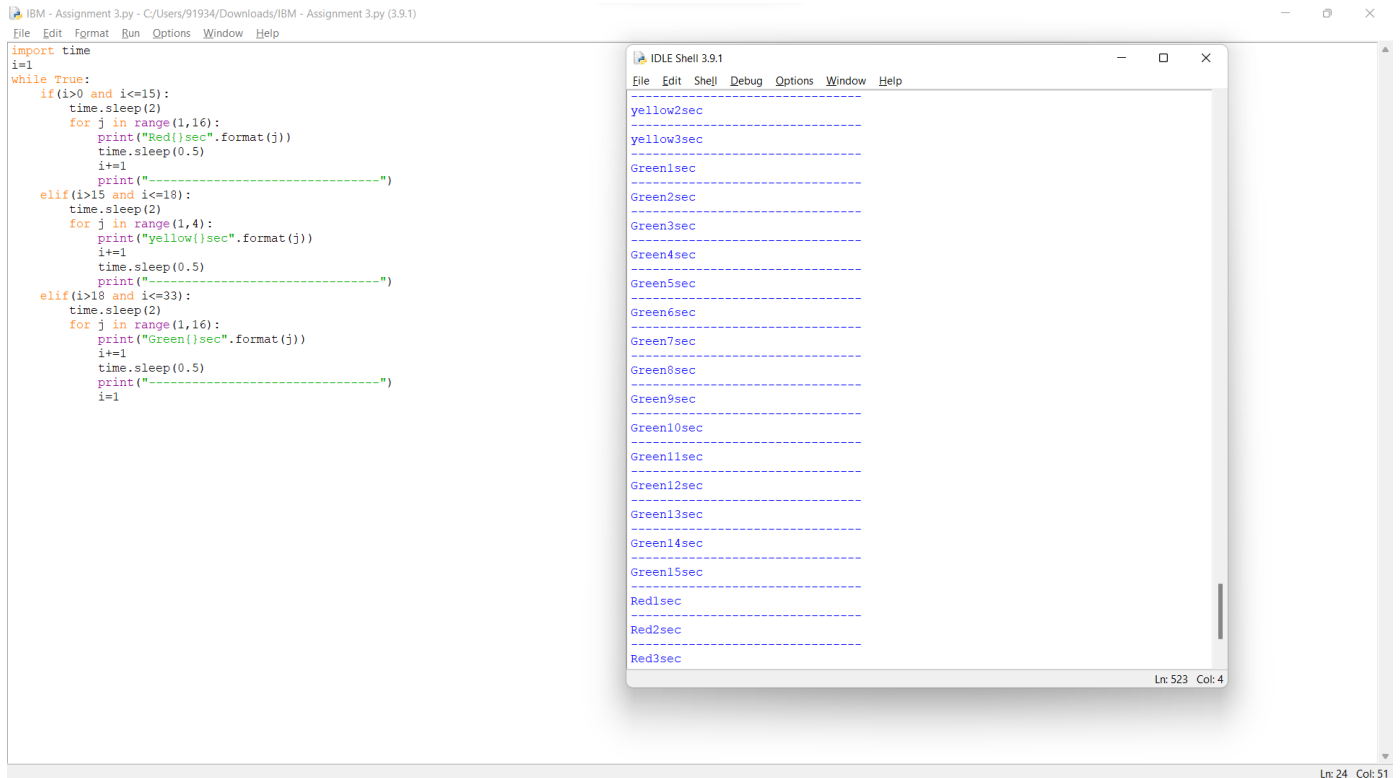
Software used:

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 image shows a Python IDE window titled "IBM - Assignment 3.py" with a menu bar (File, Edit, Format, Run, Options, Window, Help). The code is a traffic light simulation using a while loop and conditional statements to control the duration of red, yellow, and green lights. The code is as follows:

```
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
```

An "IDLE Shell 3.9.1" window is open, displaying the output of the simulation. The output shows the sequence of light states and their durations, separated by dashed lines. The sequence is: yellow2sec, yellow3sec, Green1sec, Green2sec, Green3sec, Green4sec, Green5sec, Green6sec, Green7sec, Green8sec, Green9sec, Green10sec, Green11sec, Green12sec, Green13sec, Green14sec, Green15sec, Red1sec, Red2sec, and Red3sec. The shell window shows the current line number as 523 and column as 4.

Result:

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