

Assignment -3

Hazardous Area Monitoring for Industrial Plant powered by IoT

Assignment Date : 31st September 2022

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Aim:

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

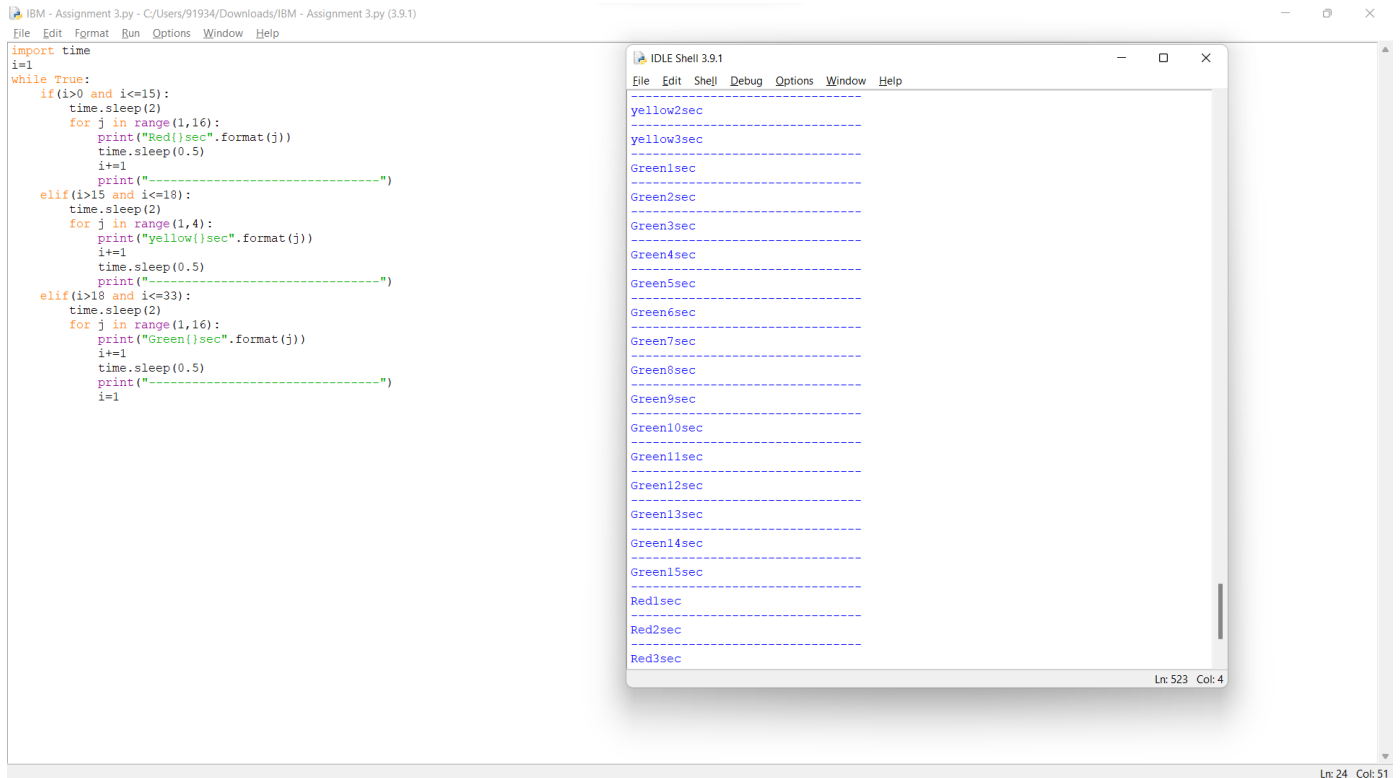
Software used:

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 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, showing the output of the simulation. The output consists of a sequence of colored text followed by a dash-separated line, representing the timing of the traffic lights:

```
yellow2sec
-----
yellow3sec
-----
Green1sec
-----
Green2sec
-----
Green3sec
-----
Green4sec
-----
Green5sec
-----
Green6sec
-----
Green7sec
-----
Green8sec
-----
Green9sec
-----
Green10sec
-----
Green11sec
-----
Green12sec
-----
Green13sec
-----
Green14sec
-----
Green15sec
-----
Red1sec
-----
Red2sec
-----
Red3sec
-----
```

The shell window status bar at the bottom right indicates "Ln: 523 Col: 4". The main IDE window status bar at the bottom right indicates "Ln: 24 Col: 51".

Result:

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