

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.

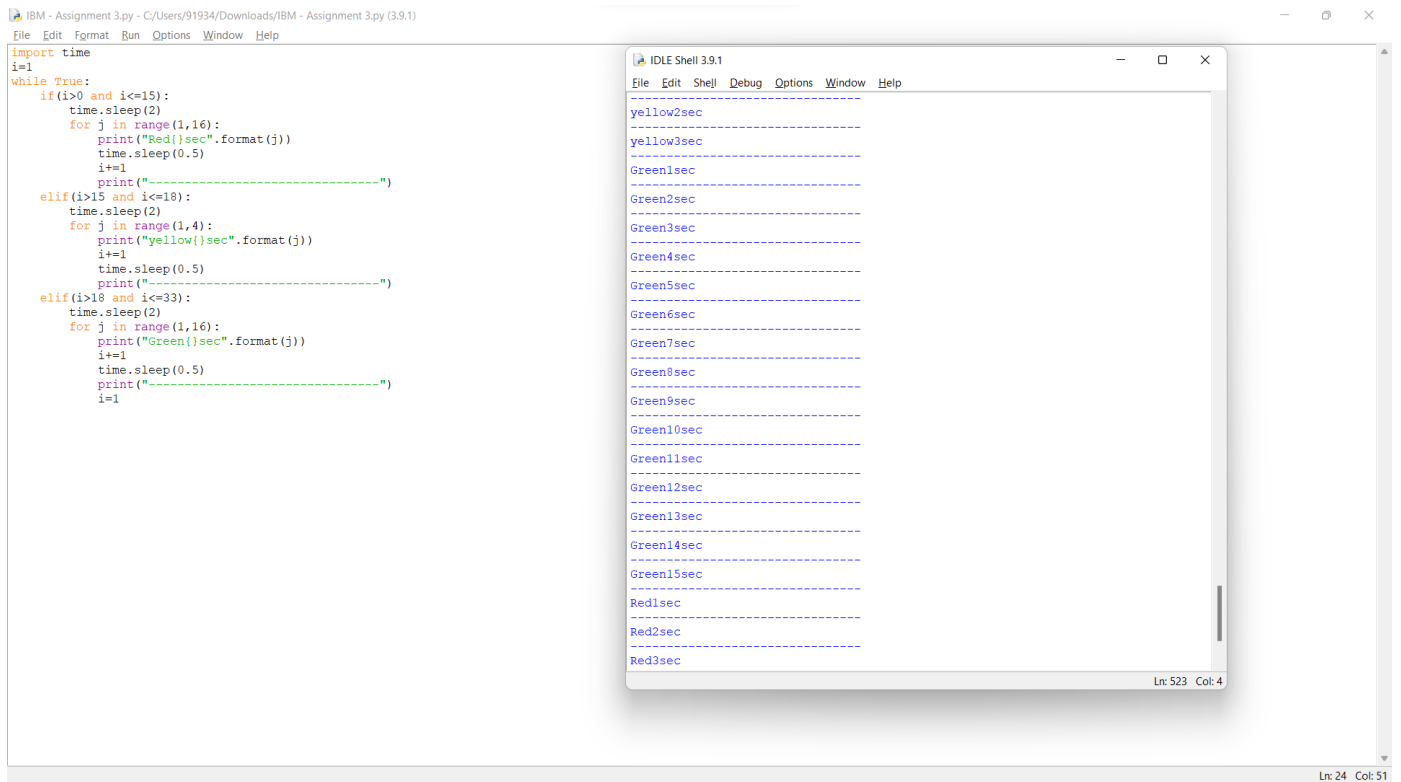
Software used:

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 screenshot of an IDE (Integrated Development Environment) with a Python script and its execution output.

Python Script (Assignment 3.py):

```
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
```

Output (IDLE Shell 3.9.1):

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

The output shows the sequence of colors and durations for a traffic light simulation: Yellow (2-3 seconds), Green (1-15 seconds), and Red (1-3 seconds). The simulation is running in a loop.

Result:

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