

## Assignment -3

### Hazardous Area Monitoring for Industrial Plant powered by IoT

**Assignment Date : 29th September 2022**

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#### **Aim:**

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

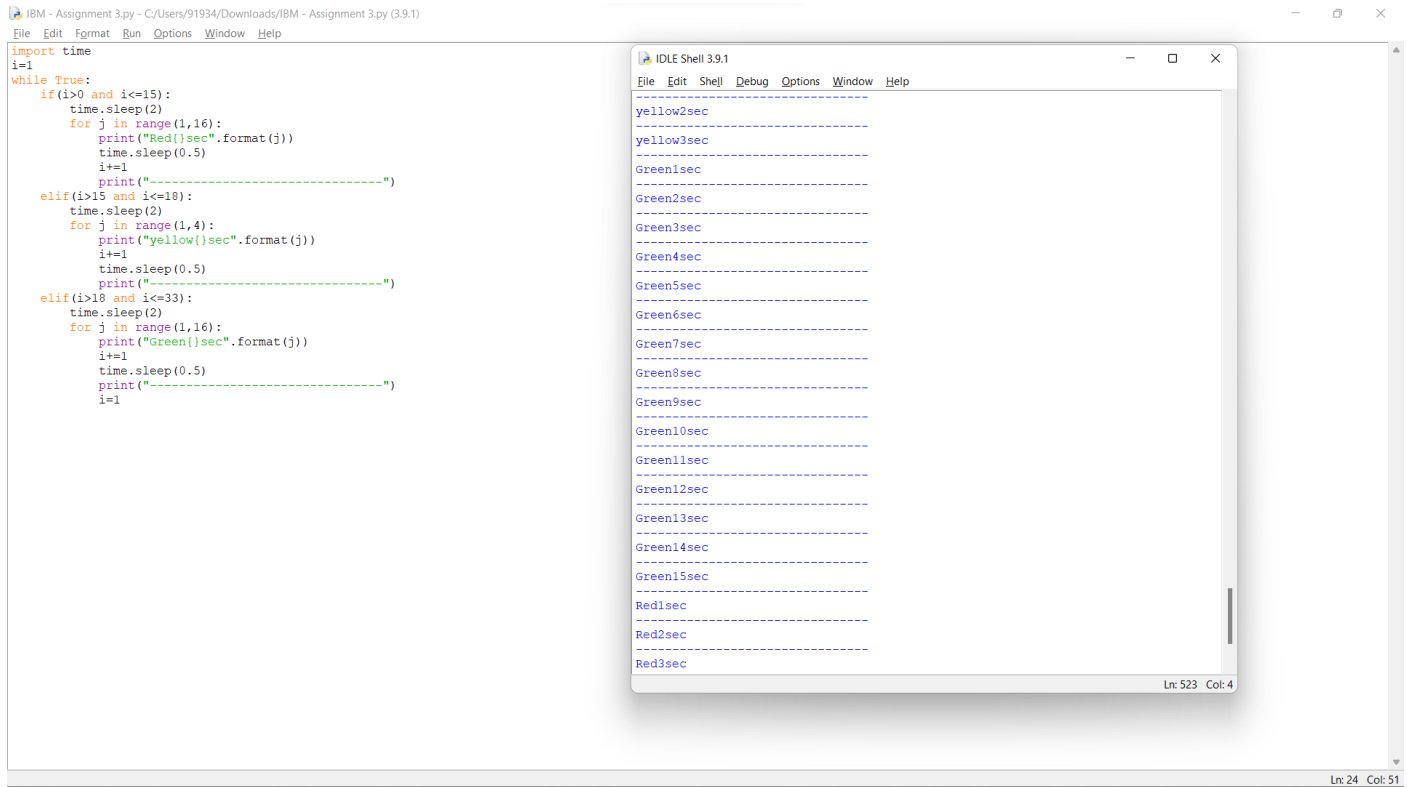
#### **Software used:**

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 with a script titled 'IBM - Assignment 3.py'. The script is a simulation of 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 lights, each with a duration of 2, 3, or 4 seconds. The script 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
```

The output in the IDLE Shell is as follows:

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

## Result:

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