

## 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.

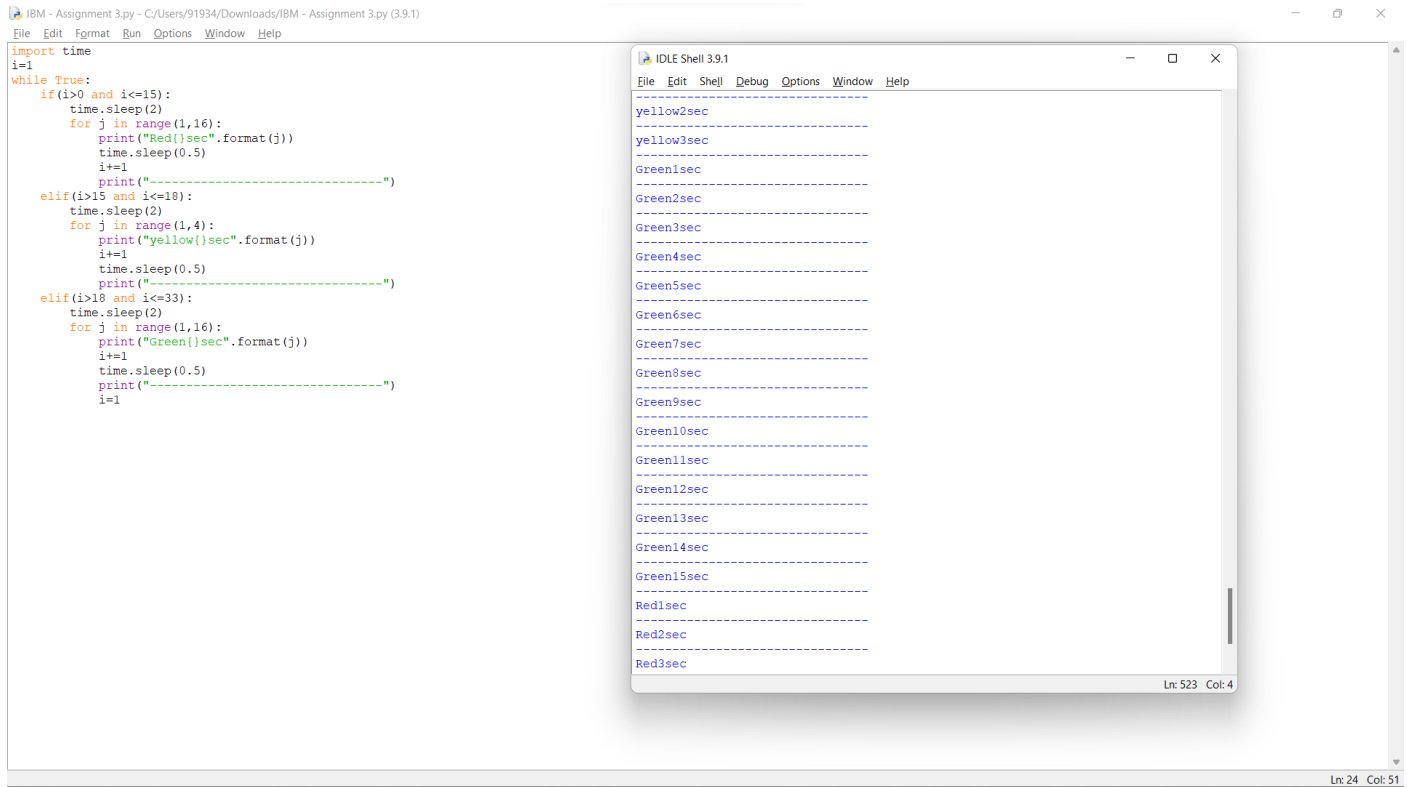
#### **Software used:**

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 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  
-----

## Result:

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