

ASSIGNMENT-III

AIM:

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

SOFTWARE USED:

Python IDLE 3.10.4 (64 bit)

PROGRAM:

```
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))

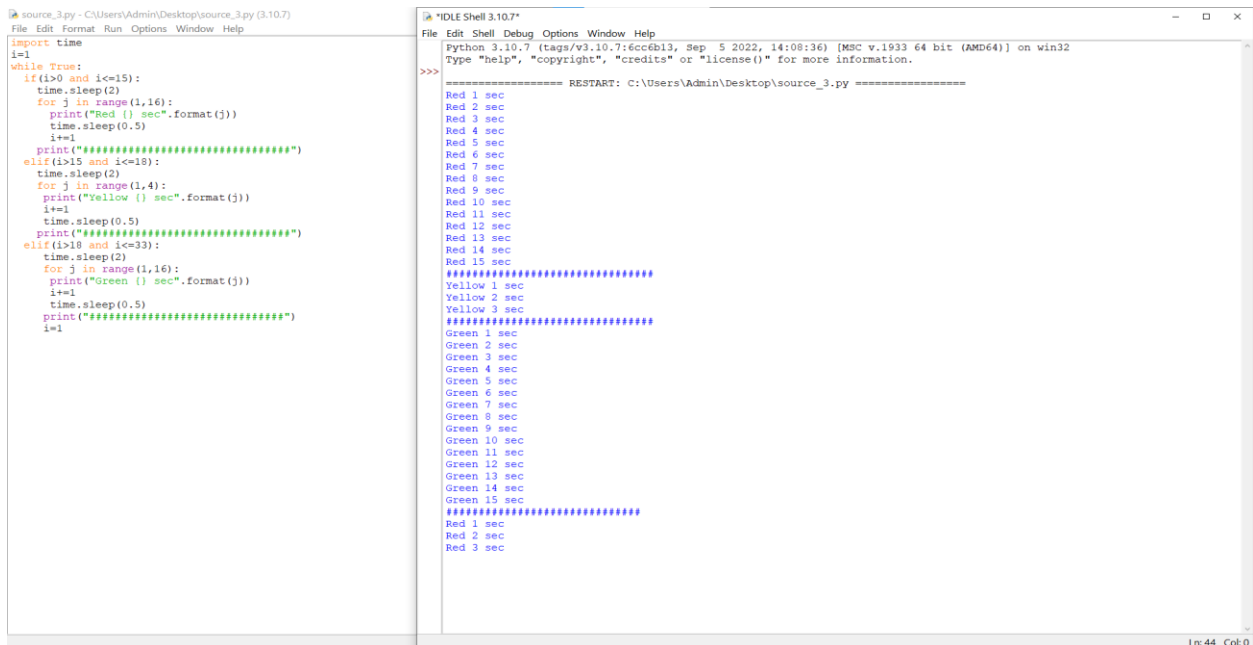
        i+=1

        time.sleep(0.5)

        print("#####")

    i=1
```

SIMULATION OUTPUT:



The image shows a side-by-side comparison of a Python script and its execution output. On the left is a code editor window titled 'source_3.py - C:\Users\Admin\Desktop\source_3.py (3.10.7)'. It contains a Python script that uses a while loop to print colored messages (Red, Yellow, Green) with associated delays. The script includes conditional logic for different ranges of a counter variable 'i'. On the right is an 'IDLE Shell 3.10.7*' window showing the execution output. The output matches the script's logic, displaying 'Red 1 sec' through 'Red 15 sec', followed by 'Yellow 1 sec' through 'Yellow 3 sec', then 'Green 1 sec' through 'Green 15 sec', and finally 'Red 1 sec' and 'Red 3 sec'. The shell window also shows a 'RESTART' message and the file path.

```
source_3.py - C:\Users\Admin\Desktop\source_3.py (3.10.7)
File Edit Shell Debug Options Window Help
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

IDLE Shell 3.10.7*
File Edit Shell Debug Options Window Help
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Admin\Desktop\source_3.py =====
Red 1 sec
Red 2 sec
Red 3 sec
Red 4 sec
Red 5 sec
Red 6 sec
Red 7 sec
Red 8 sec
Red 9 sec
Red 10 sec
Red 11 sec
Red 12 sec
Red 13 sec
Red 14 sec
Red 15 sec
#####
Yellow 1 sec
Yellow 2 sec
Yellow 3 sec
#####
Green 1 sec
Green 2 sec
Green 3 sec
Green 4 sec
Green 5 sec
Green 6 sec
Green 7 sec
Green 8 sec
Green 9 sec
Green 10 sec
Green 11 sec
Green 12 sec
Green 13 sec
Green 14 sec
Green 15 sec
#####
Red 1 sec
Red 3 sec
```

WORKING:

- 1) Red Light glows for 15 seconds.
- 2) After timeout, Yellow Light glows after an interval (sleep) of 2 seconds.
- 3) Yellow Light glows for 3 seconds.
- 4) After timeout, device goes for 2 seconds sleep mode.
- 5) After sleep mode, Green Light glows for 15 seconds.
- 6) This process is repeated and goes for infinite cycles.

RESULT:

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