Assignment -3
Python Programming

Assignment Date	07 October 2022
Student Name	Ms. MADHUSHREE S
Student Roll Number	621319106049
Maximum Marks	2 Marks

Question:

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

PROGRAM:

```python
import RPi.GPIO as GPIO
import time
import os
import signal
import sys

if('TRAFFIC_LIGHT_COUNTRY'inos.environ)and(os.environ['TRAFFIC_LIGHT_CO
UNTRY'] in ['UK', 'USA']):
        pattern = os.environ['TRAFFIC_LIGHT_COUNTRY'].lower()
else:
        print('TRAFFIC_LIGHT_COUNTRY should be set to UK or USA')
        sys.exit(1)

# Setup
GPIO.setmode(GPIO.BCM)
GPIO.setup(9, GPIO.OUT)
GPIO.setup(10, GPIO.OUT)
GPIO.setup(11, GPIO.OUT)

# Turn off all lights when user ends demo
def allLightsOff(signal, frame):
        GPIO.output(9, False)
        GPIO.output(10, False)
        GPIO.output(11, False)
        GPIO.cleanup()
        sys.exit(0)
```

```python
signal.signal(signal.SIGINT, allLightsOff)

# Loop forever
while True:
        # Red
        GPIO.output(9, True)
        time.sleep(3)

        # Red and amber for UK only
        if (pattern == 'uk'):
                GPIO.output(10, True)

        time.sleep(1)

        # Green
        GPIO.output(9, False)
        GPIO.output(10, False)
        GPIO.output(11, True)
        time.sleep(5)

        # Amber, longer in US than UK
        GPIO.output(11, False)
        GPIO.output(10, True)
        if (pattern == 'uk'):
                time.sleep(2)
        else:
                time.sleep(3)

        # Amber off (red comes on at top of loop)
        GPIO.output(10, False)
```