Assignment -3
Python Programming

Assignment Date	07 October 2022
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Maximum Marks	2 Marks

Question:

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

PROGRAM:

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

if('TRAFFIC_LIGHT_COUNTRY'inos.environ)and(os.environ['TRAFFIC_LIG
HT_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)
```

```
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)
```