

Assignment -3
Python Programming

Assignment Date	07 October 2022
Student Name	Bharat.S
Student Roll Number	311019106015
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' in os.environ) and (os.environ['TRAFFIC_LIG
HT_COUNTRY'] 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)
```