

Assignment -3
Python
Programming

Question:

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

PROGRAM:

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

if('TRAFFIC_LIGHT_COUNTRY' in os.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.BC
M)GPIO.setup(9,
GPIO.OUT)
GPIO.setup(10,
GPIO.OUT)
GPIO.setup(11,
GPIO.OUT)

# Turn off all lights when user ends demodef
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
```

```
foreverwhile
```

```
True:
```

```
    # Red
```

```
    GPIO.output(9,  
True)time.sleep(3)
```

```
    # Red and amber for UK
```

```
    onlyif (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
```

```
    UKGPIO.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)
```