Assignment -3

Python Programming

Assignment Date	08 October 2022
Student Name	Ms. HEMANITHI J
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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_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)
```

```
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)
```