Assignment -3

Assignment Date	4 October 2022
Student Name	Mr. Abinesh V
Student Roll Number	2019503001
Maximum Marks	2 Marks

Question:

Write python code for blinking LED and Traffic Light for Rasberry pi.

Solution:

- **LED LIGHT**

Source code:

```python
import RPi.GPIO as GPIO # RPi.GPIO can be referred as GPIO from now
import time
ledPin = 22    # pin22
def setup():
    GPIO.setmode(GPIO.BOARD)      # GPIO Numbering of Pins
    GPIO.setup(ledPin, GPIO.OUT)   # Set ledPin as output
    GPIO.output(ledPin, GPIO.LOW)  # Set ledPin to LOW to turn Off the LED
def loop():
    while True:
        print 'LED on'
        GPIO.output(ledPin, GPIO.HIGH)   # LED On
        time.sleep(1.0)            # wait 1 sec
        print 'LED off'
        GPIO.output(ledPin, GPIO.LOW)   # LED Off
        time.sleep(1.0)            # wait 1 sec
def endprogram():
    GPIO.output(ledPin, GPIO.LOW)     # LED Off
    GPIO.cleanup()              # Release resources
```

```python
if _name_ == '_main_':        # Program starts from here

    setup()

    try:

        loop()

    except KeyboardInterrupt:  # When 'Ctrl+C' is pressed, the destroy() will be  executed.

        endprogram()
```

- **TRAFFIC LIGHTS**

Source code:

```python
import RPi.GPIO as GPIO

import time

import signal

import sys

GPIO.setmode(GPIO.BCM)

GPIO.setup(9, GPIO.OUT)

GPIO.setup(10, GPIO.OUT)

GPIO.setup(11, GPIO.OUT)

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)

while True:

    # Red

    GPIO.output(9, True)

    time.sleep(3)

    # Red and amber
```

```python
GPIO.output(10, True)
time.sleep(1)
# Green
GPIO.output(9, False)
GPIO.output(10, False)
GPIO.output(11, True)
time.sleep(5)
# Amber
GPIO.output(11, False)
GPIO.output(10, True)
time.sleep(2)
# Amber off (red comes on at top of loop)
GPIO.output(10, False)
```