Assignment -3
Python Programming

Team ID:PNT2022TMID53925

Assignment Date	6 October 2022
Student Name	Kausalya N
Student Roll Number	95071914048
Maximum Marks	2 Marks

Question-1:

Write a python code to blink LED for Raspberry pi

Solution:

```
import RPi.GPIO as GPIO#RPi.GPIO can bereferred as GPIO from now on

import time

ledPin=22 #pin22

def setup():
        GPIO.setmode(GPIO.BOARD)  #GPIO NumberingofPins

        GPIO.setup(ledPin, GPIO.OUT) #Set ledPinasoutput

        GPIO.output(ledPin,GPIO.LOW) #Set ledPintoLOWto turnOfftheLED

    def loop():
while True:
 print'LEDon'

            GPIO.output(ledPin, GPIO.HIGH) #LEDOn

            time.sleep(1.0)  #wait 1sec

            print'LEDoff'

            GPIO.output(ledPin, GPIO.LOW) #LEDOff time.sleep(1.0)

            #wait 1sec
    def endprogram():
        GPIO.output(ledPin,GPIO.LOW) #LEDOff
```

```
        GPIO.cleanup()              #Releaseresources
if_name_=='_main_':  #Programstartsfromhere setup()
        try:


            loop()
    except KeyboardInterrupt: #When'Ctrl+C' ispressed,thedestroy()will be executed. endprogram()
```

Question-2:

Write a python code for traffic lights for Raspberry pi

SOLUTION:

```python
import RPi.GPIO as GPIO import time
try: def lightTraffic(led1, led2, led3,
delay):  GPIO.output(led1,      1)
time.sleep(delay) GPIO.output(led1,  0)
GPIO.output(led2,      1)
time.sleep(delay) GPIO.output(led2,  0)
GPIO.output(led3,      1)
time.sleep(delay) GPIO.output(led3,
0)
GPIO.setmode(GPIO.BCM) button=
19
GPIO.setup(button, GPIO.IN, pull_up_down=GPIO.PUD_UP) ledGreen=
16 ledYellow=
12 ledRed=
23
GPIO.setup(ledGreen, GPIO.OUT)
GPIO.setup(ledYellow,  GPIO.OUT)
GPIO.setup(ledRed, GPIO.OUT)
while    True:
input_state=GPIO.input(button)
if input_state== False: print('Button
    Pressed') lightTraffic(ledGreen,
ledYellow, ledRed, 1) else:
GPIO.output(ledGreen, 0)
GPIO.output(ledYellow, 0)
GPIO.output(ledRed, 0)
except KeyboardInterrupt: print
```

"You'veexitedtheprogram" **finally**:

```
GPIO.cleanup()
```