

**Assignment -3**  
Python Programming  
Team ID:PNT2022TMID53952

Assignment Date	6 October 2022
Student Name	Jeba Shalomie Immanuel
Student Roll Number	95071914035
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' is pressed, the destroy() will be executed. endprogram()

```

## Question-2:

## Write a python code for traffic lights for Raspberry pi

SOLUTION:

```

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've exited the program"

    finally:

```

```
GPIO.cleanup()
```