

Assignment 3 PNT2022TMID53925
Python Programming

Assignment Date	6 October 2022
Student Name	T.ABITHA J3NCY
Student Roll Number	95071914004
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

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()
```