

Assignment 3

Python Programming

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Question

Write python code for blinking LED and Traffic lights for Raspberry pi.

Traffic Light

```
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()
```

Blinking LED

```
Import RPi.GPIO as GPIO # Import Raspberry PiGPIO library
```

```
From time import sleep # Import the sleep function from the time module
```

```
GPIO.setwarnings(False) # Ignore warning for now
```

```
GPIO.setmode(GPIO.BOARD) # Use physical pin numbering
```

```
GPIO.setup(8, GPIO.OUT, initial=GPIO.LOW) # Set pin 8 to be an output pin
and set initial value to low (off)
```

```
While True: # Run forever
```

```
GPIO.output(8, GPIO.HIGH) # Turn on
```

```
sleep(1) # Sleep for 1 second GPIO.output(8, GPIO.LOW) # Turn off
```

```
sleep(1) # Sleep for 1 second
```