

### Assignment -3

#### Python Programming

Assignment Date	02 October 2022
Student Name	Ms.JAYAPRIYA P
Student Roll Number	GCTC1914117
Maximum Marks	2 Marks

#### Question-1:

Write a python code for led blinking in raspberry pi

#### SOLUTION:

```
import RPi.GPIO as GPIO # Import Raspberry Pi GPIO 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
```

A screenshot of a code editor window showing a Python script for LED blinking. The window title is "assignment3.py - C:/Users/ARUN VIKRAM/AppData/Local/Programs/Python/Python310/assignment3.py (3.10.1)". The script includes comments for each line, explaining the purpose of the imports and GPIO setup. The code uses a while loop to toggle the state of pin 8 (HIGH for on, LOW for off) with a 1-second delay between each state change.

```
assignment3.py - C:/Users/ARUN VIKRAM/AppData/Local/Programs/Python/Python310/assignment3.py (3.10.1)
File Edit Format Run Options Window Help
import RPi.GPIO as GPIO # Import Raspberry Pi GPIO 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
```

## Question-2:

Write a python code for traffic light in raspberry pi

SOLUTION:

```
from gpiozero import Button, TrafficLights, Buzzer  
from time import sleep
```

```
buzzer = Buzzer(15)
```

```
button = Button(21)
```

```
lights = TrafficLights(25, 8, 7)
```

while True:

```
    button.wait_for_press()
```

```
    buzzer.on()
```

```
    light.green.on()
```

```
    sleep(1)
```

```
    lights.amber.on()
```

```
    sleep(1)
```

```
    lights.red.on()
```

```
    sleep(1)
```

```
    lights.off()
```

```
    buzzer.off()
```

\*assignment3.py - C:/Users/ARUN VIKRAM/AppData/Local/Programs/Python/Python310/assignment3.py (3.10.1)\*

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```
from gpiozero import Button, TrafficLights, Buzzer  
from time import sleep
```

```
buzzer = Buzzer(15)  
button = Button(21)  
lights = TrafficLights(25, 8, 7)
```

```
while True:  
    button.wait_for_press()  
    buzzer.on()  
    light.green.on()  
    sleep(1)  
    lights.amber.on()  
    sleep(1)  
    lights.red.on()  
    sleep(1)  
    lights.off()  
    buzzer.off()
```

