

### Assignment -3

#### Python Programming

|                     |                     |
|---------------------|---------------------|
| Assignment Date     | 02 October 2022     |
| Student Name        | Mr. ARUN VIKRAM A R |
| Student Roll Number | GCTC1914105         |
| 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 imports for RPi.GPIO and time, sets GPIO warnings to False and mode to BOARD, configures pin 8 as an output, and enters a while loop that turns the pin on, sleeps for 1 second, turns it off, and sleeps for 1 second again.

```
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()
```

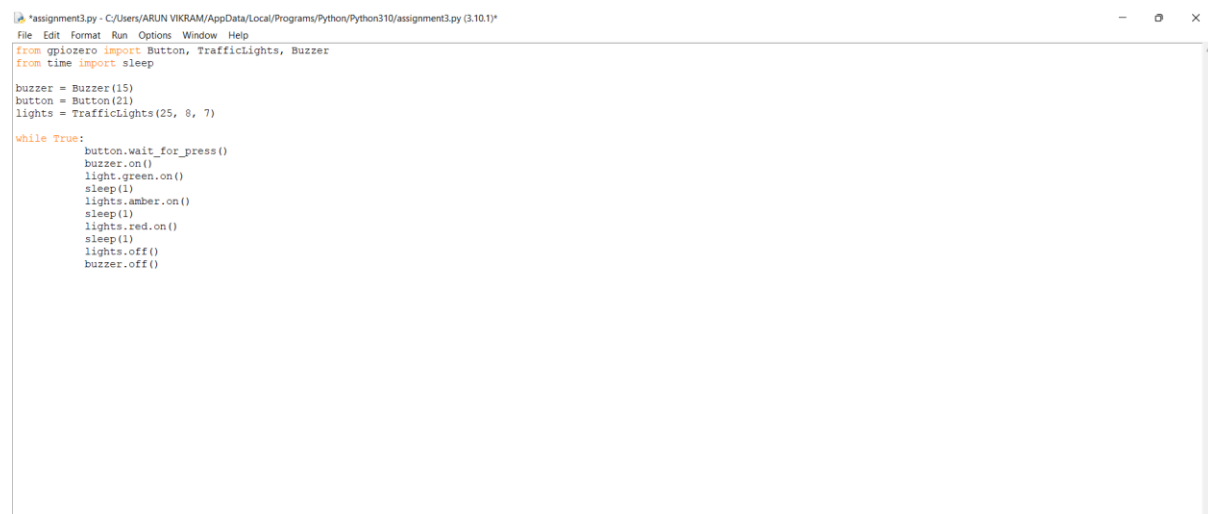
```
    sleep(1)
```

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

```
    sleep(1)
```

```
    lights.off()
```

```
    buzzer.off()
```



The screenshot shows a Python IDE window titled "assignment3.py - C:/Users/ARUN VIKRAM/AppData/Local/Programs/Python/Python310/assignment3.py (3.10.1)". The code is as follows:

```
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()
```

