

Assignment -3

Python Programming

Assignment Date	02 October 2022
Student Name	AJAY S
Student Roll Number	GCTC1914102
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 titled 'assignment3.py - C:/Users/ARUN VIKRAM/AppData/Local/Programs/Python/Python310/assignment3.py (3.10.1)'. The editor shows the same Python code as the previous blocks, which is a script to blink an LED connected to GPIO pin 8. The code includes imports for the RPi.GPIO library and the sleep function from the time module. It sets warnings to False, configures pin 8 as an output pin in BOARD mode, and then enters an infinite loop where it sets the pin to HIGH, sleeps for 1 second, sets it to LOW, and sleeps for another 1 second.

```
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)

```
File Edit Format Run Options Window Help  
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()
```

