ASSIGNMENT-03

TEAM ID : PNT2022TMID52822

ROLL NO: CITC1904082

NAME: Jeevaraj M

Question-1:
A)Write a python program to blink an LED in Raspberry Pi.
Python code

```
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
```

B) Write a python code for blinking Traffic lights for Raspberry Pi.
Python code:

```
from gpiozero import Button, TrafficLights
from time import sleep
button = Button(21)
lights = TrafficLights(25, 8, 7)
while True:
button.wait_for_press()
light.green.on()
sleep(1)
lights.amber.on()
sleep(1)
lights.red.on()
sleep(1)
lights.off()
```

CODE:

```python
from gpiozero import Button

button = Button(21)

while True:
    print(button.is_pressed)
while True:
    if button.is_pressed:
        print("Hello")
    else:
        print("Goodbye")
while True:
    button.wait_for_press()
    print("Pressed")
    button.wait_for_release()
    print("Released")
```

Adding an LED:

```python
from gpiozero import Button, LED
led = LED(25)
while True:
    button.wait_for_press()
    led.on()
    button.wait_for_release()
    led.off()
while True:
    led.on()
    button.wait_for_press()
    led.off()
    button.wait_for_release()
while True:
    led.blink()
    button.wait_for_press()
    led.off()
```

```
    button.wait_for_release()
```

Traffic lights

```
from gpiozero import Button, TrafficLights
lights = TrafficLights(25, 8, 7)
while True:
    button.wait_for_press()
    lights.on()
    button.wait_for_release()
    lights.off()
while True:
    lights.blink()
    button.wait_for_press()
    lights.off()
    button.wait_for_release()
```

Traffic lights sequence

```
from time import sleep
while True:
    lights.green.on()
    sleep(1)
    lights.amber.on()
    sleep(1)
    lights.red.on()
    sleep(1)
    lights.off()
while True:
    button.wait_for_press()
    lights.green.on()
    sleep(1)
    lights.amber.on()
    sleep(1)
    lights.red.on()
    sleep(1)
    lights.off()
```