Assignment-3

Assignment Date	2 October 2022
Student Name	E Prakash
Student Roll Number	2019504045
Maximum Marks	2 Marks

Question-1:

Write a python code for Blinking LED for 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

 #-------------------------------------------------------------------------------#
```

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```
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 lights for Raspberry pi.

Solution:

```
from gpiozero import Button, TrafficLights  #Import button and traffic lights from  gpio
                                              python library
from time import sleep                      #Import the sleep function from the time module
button = Button(21)                 #Button-GPIO 21
lights = TrafficLights(25, 8, 7)    #Red LED-GPIO 25,Amber LED-GPIO 8,Green LED-GPIO 7
while True:                         #Run forever
    button.wait_for_press()         #Wait for the button to be pressed
    lights.green.on()               #Turn on Green LED for 90 seconds
    sleep(90)
    lights.amber.on()               #Turn on Amber LED for 10 seconds
    sleep(10)
    lights.red.on()                 #Turn on Red LED for 45 seconds
    sleep(45)
    lights.red.on()                 #Turn on Red and Amber for 10 seconds
    lights.amber.on()
    sleep(10)
        #-------------------------------------------------------------------------------#
```

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```
from gpiozero import Button, TrafficLights  #Import button and traffic lights from gpiozero python library
from time import sleep                      #Import the sleep function from the time module
button = Button(21)                         #Button-GPIO 21
lights = TrafficLights(25, 8, 7)            #Red LED-GPIO 25,Amber LED-GPIO 8,Green LED-GPIO 7
while True:                                 #Run forever
    button.wait_for_press()                 #Wait for the button to be pressed
    light.green.on()                        #Turn on Green LED for 90 seconds
    sleep(90)
    lights.amber.on()                       #Turn on Amber LED for 10 seconds
    sleep(10)
    lights.red.on()                         #Turn on Red LED for 45 seconds
    sleep(45)
    lights.red.on()                         #Turn on Red and Amber for 10 seconds
    lights.amber.on()
    sleep(10)
```