

### Assignment-3

Assignment Date	2 october 2022
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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)
```