

ASSIGNMENT -3

Assignment date	08 October 2022
Student name	KABILAN P
Student Roll Number	711719104039
Maximum Marks	2 Marks

QUESTION:

Write a python code for blinking LED and Traffic lights for Raspberry pi.

Solution:

PYTHON CODE FOR BLINKING LED

```
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
```

PYTHON CODE FOR TRAFFIC LIGHT

```
import RPi.GPIO as GPIO

import time
import signal

import sys


# Setup

GPIO.setmode(GPIO.BCM)

GPIO.setup(9, GPIO.OUT)

GPIO.setup(10, GPIO.OUT)

GPIO.setup(11, GPIO.OUT)


# Turn off all lights when user ends demo
def allLightsOff(signal, frame):

    GPIO.output(9, False)

    GPIO.output(10, False)

    GPIO.output(11, False)

    GPIO.cleanup()
    sys.exit(0)


signal.signal(signal.SIGINT, allLightsOff)
```

```
# Loop forever while True:
```

```
    # Red
```

```
    GPIO.output(9, True)
    time.sleep(3)
```

```
    # Red and amber
```

```
    GPIO.output(10, True) time.sleep(1)
```

```
    # Green
```

```
    GPIO.output(9, False)
```

```
    GPIO.output(10, False)
```

```
    GPIO.output(11, True)
```

```
    time.sleep(5) # Amber
```

```
    GPIO.output(11, False)
```

```
    GPIO.output(10, True)
```

```
    time.sleep(2)
```

```
    # Amber off (red comes on at top of loop)
```

```
    GPIO.output(10, False)
```