

Assignment -3

Python Programming

Assignment Date	6 October 2022
Student Name	Mr. Akash V S
Student Roll Number	923819106004
Maximum Marks	2 Marks

Question-1:

Write python code for blinking LED for Raspberry pi

Solution:

```
import RPi.GPIO as GPIO
```

```
from time import sleep
```

```
GPIO.setwarnings(False)
```

```
GPIO.setmode(GPIO.BOARD)
```

```
GPIO.setup(8, GPIO.OUT, initial=GPIO.LOW)
```

```
while True:
```

```
    GPIO.output(8, GPIO.HIGH)
```

```
    sleep(1)
```

```
    GPIO.output(8, GPIO.LOW)
```

```
    sleep(1)
```

Question-2:

Write python code for Traffic lights for Raspberry pi

Solution:

```
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)

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)
```