

Assignment -3
Python Programming

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| Assignment Date | 29 September 2022 |
| Student Name | Mr. Jawaharprasad S |
| Student Roll Number | 714019106036 |
| Maximum Marks | 2 Marks |

Question-1:

Write a python code for blinking LED and Traffic Lights for Raspberry Pi. Only python code is enough, no need to execute in Raspberry Pi. Note you are allowed to use web search and complete the assignment.

#Python code for blinding 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
```

#Traffic lights for Raspberry Pi

```
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)
```

