

Assignment -3

Assignment Date	26 October 2022
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Maximum Marks	2 Marks

write python code for blinking led and traffic light for raspberry pi.

LED Blink:

```
import RPi.GPIO as IO      # calling header file for GPIO's of PI

import time                # calling for time to provide delays in program

IO.setmode (IO.BOARD)      # programming the GPIO by BOARD pin numbers, GPIO21 is
called as PIN40

IO.setup(40,IO.OUT)        # initialize digital pin40 as an output.

IO.output(40,1)            # turn the LED on (making the voltage level HIGH)

time.sleep(1)              # sleep for a second

IO.cleanup()               # turn the LED off (making all the output pins LOW)

time.sleep(1)              #sleep for a second

#loop is executed second time

IO.setmode (IO.BOARD)

IO.setup(40,IO.OUT)

IO.output(40,1)

time.sleep(1)

IO.cleanup()

time.sleep(1)
```

#loop is executed third time

IO.setmode (IO.BOARD)

IO.setup(40,IO.OUT)

IO.output(40,1)

time.sleep(1)

IO.cleanup()

time.sleep(1)

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)
```