

Assignment – 3

Write python code for blinking LED and Traffic lights for

Raspberry pi : -

Program : -

```
# GPIO traffic light program

# pin numbers

GPIO_RED = 22

GPIO_AMBER = 23

GPIO_GREEN = 24

GPIO_SWITCH = 17

# time delay in secs

TIME = 1

# import RPi.GPIO module

import RPi.GPIO as GPIO

# import time module used for sleep

import time

# Use GPIO pin numbering disable in-use warnings

GPIO.setmode(GPIO.BCM)

GPIO.setwarnings(False)

# Setup relevant pins

GPIO.setup(GPIO_RED, GPIO.OUT)

GPIO.setup(GPIO_AMBER, GPIO.OUT)

GPIO.setup(GPIO_GREEN, GPIO.OUT)
```

```
GPIO.setup(GPIO_SWITCH, GPIO.IN, pull_up_down=GPIO.PUD_UP)
```

```
# start with red light on
```

```
def main():
```

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

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

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

```
# Loop keeps running
```

```
while True:
```

```
    switchOutput(GPIO_SWITCH)
```

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

```
    time.sleep (TIME)
```

```
    switchOutput(GPIO_SWITCH)
```

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

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

```
    time.sleep(TIME)
```

```
    switchOutput(GPIO_SWITCH)
```

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

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

```
    time.sleep(TIME)
```

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

```
def switchOutput(input):
```

```
state = 'On' if not GPIO.input(GPIO_SWITCH) else 'Off'  
print("The switch is " + state)  
main()
```

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