

ASSIGNMENT-3

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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)
```