Assignment - 3
Python Programming

Assignment Date	5 October 2022
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Maximum Marks	2 Marks

Question-1:

Write python code for blinking LED for Raspberry pi

Solution:

```
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
```

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)
```