**Assignment -3**

Python Programming

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| **Assignment Date** | **05 October 2022** |
| **Student Name** | **CHANDRU S** |
| **Student Roll Number** | **811019106007** |
| **Maximum Marks** | **2 Marks** |

**Question-1 :**

**Write python code for blinking LED and Traffic lights for Raspberry pi.**

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| **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**

**//\*PYTHON CODE FOR TRAFFIC LIGHT\*//**

**GPIO.output(8, GPIO.LOW) # Turn off**

**sleep(1) # Sleep for 1 second**

**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)**