**Assignment -3**

Python Programming

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| Assignment Date | 17 October 2022 |

**Question-1:**

Build a python code for blinking LED and traffic lights for raspberry pi.

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| **Solution:** |
| **For LED:**  **import RPi.GPIO as GPIO**  **# Import Raspberry Pi GPIO library**  **from time import sleep**  **#Import 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**  **For Traffic Lights:**  **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,framer):**  **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)** |