**Assignment -3**

Python Assignment

|  |  |
| --- | --- |
| Assignment Date | 07 October 2022 |
| Student Name | Keerthika M |
| Student Roll Number | 113119UG07046 |
| Maximum Marks | 2 marks |

**Question-1:**

Write a Python code for Blinking LED and Traffic Light for Raspberry Pi

**Solution:**

**Blinking LED for Raspberry *pi***

import RPi.GPIO as GPIO

import time

#assign numbering for the GPIO using BCM

GPIO.setmode(GPIO.BCM)

#assign number for the GPIO using Board

GPIO.setmode(GPIO.BOARD)

tms = 0

MAIL\_CHECK\_FREQ = 1 # change LED status every 1 seconds

RED\_LED = 4

GPIO.setup(RED\_LED, GPIO.OUT)

while True:

iftms == 0 :

GPIO.output(RED\_LED, False)

tms = 1

else:

GPIO.output(RED\_LED, True)

tms = 0

time.sleep(MAIL\_CHECK\_FREQ)

GPIO.cleanup()

**Traffic Lights for Raspberry pi**

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)