**Name: Shubham Vilas Malve**

**Class: BE-II**

**Roll No.: E42067**

**CODE:**

#Raspberry Pi Libraries

import RPi.GPIO as GPIO #GPIO library

import time #library for sleep

import board

import digitalio

import adafruit\_character\_lcd.character\_lcd as characterled

#set mode as BCM

GPIO.setmode(GPIO.BCM)

#Modify this if you have a different sized character LCD

lcd columns = 16

lcd\_rows = 2

#Raspberry Pi Pin Config:

lcd rs = digitalio.DigitalInOut(board.D5)

lcd en = digitalio.DigitallnOut(board.D6)

lcd d4 = digitalio.DigitalInOut(board.D12)

lcd\_d5 = digitalio.DigitalInOut(board.D13)

lcd\_d6 = digitalio.DigitalInOut(board.D16)

lcd\_d7 = digitalio.DigitalInOut(board.D17)

#Initialise the Icd class

lcd characterlcd.Character\_LCD\_Mono(

lcd rs, lcd en, lcd d4, lcd d5, lcd\_d6, lcd\_d7, lcd\_columns, lcd\_rows)

#set pins

PIR = 21

BUZ-22

#setup pins at output

GPIO.setup(PIR, GPIO.IN)

GPIO.setup(BUZ, GPIO.OUT)

if\_\_name\_\_==‘\_\_main\_\_’:

try:

while True:

PIR\_State = GPIO.input(PIR)

if (PIR\_State True):

print ("Motion Detected")

lcd.clear()

lcd.message = "Motion Detected"

GPIO.output (BUZ, GPIO.HIGH)

time.sleep(0.5)

GPIO.output (BUZ, GPIO.LOW)

time.sleep(0.5)

else:

lcd.clear()

lcd.message "NO Motion"

print ("No Motion")

time.sleep(0.5)

except KeyboardInterrupt:

GPIO.cleanup()

#include<firebaseESP8266.h>

#include<ESP8266WiFi.h>

#define ssid "VAIBHAVHINGOLE" //WiFi SSID

#define password "12345678#" // WiFi Password

#define FIREBASE\_HOST"ehas-1234-default-rtdb.firebaseio.com"

#define FIREBASE\_AUTH "o8ctQwHRzCTPRVyjMeeiqJSm3v3RSUJAB96pAQal"

//If using Relay Module

Int Device 1=D0; // initialize D6 Pin

Void setup() {

Serial.begin(9600);

WiFi.begin(ssid, password);

While(WiFi.status() != WL\_CONNECTED) {

Delay(500);

Serial.print(".");

}

Serial.printIn("");

Serial.printIn("WiFi Connected");

Firebase.begin(FIREBASE\_HOST, FIREBASE\_AUTH);

pinMode(Device\_1, OUTPUT); // initialize the Device OUTPUT

}

Void loop

{

if(Firebase.get(firebaseData, "/DI")) {

if(firebaseData.dataType()=="string") {

String De 1 = firebaseData.stringData();

If(De == "1") {

digitalWrite(Device\_1, HIGH); // Device 1 is ON

else if (De 1 = "0") {

digitalWrite(Device\_1, LOW); // Device l is OFF

}}

}}

}

try:

while True:

PIR State GPIO.input(PIR)

if (PIR\_State == True):

print ("Motion Detected")

lcd.clear()

lcd.message = "Motion Detected"

GPIO.output (BUZ, GPIO.HIGH)