Assignment 1

Smart Home in Wokwi with 2 sensors, LED and Buzzer

```
#define BLYNK_TEMPLATE_ID "TMPLcsTEe6uD"
#define BLYNK_DEVICE_NAME "IOT SMART HOME"
#define BLYNK_AUTH_TOKEN "0i6ILQXN8UToKiJ_0lSsafzKBEckxZLE"

#define BLYNK_PRINT Serial

#include <LiquidCrystal_I2C.h>
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>

char auth[] = BLYNK_AUTH_TOKEN;

char ssid[] = "Wokwi-GUEST";
char pass[] = "";

#define LIGHT_SENSOR_PIN  33
#define LED_PIN           13
#define ANALOG_THRESHOLD  500
#define echoPin 4
#define trigPin 19

long duration;
int distance;
LiquidCrystal_I2C LCD = LiquidCrystal_I2C(0x27, 16, 2);

BlynkTimer timer;
```

```
WidgetLED led3(V3);
boolean LEDState = false;

BLYNK_CONNECTED ()
{
  Blynk.syncVirtual (V3);
}

void sendSensor()
{
 digitalWrite(trigPin, LOW);
 delayMicroseconds(2);

 digitalWrite(trigPin, HIGH);
 delayMicroseconds(10);
 digitalWrite(trigPin, LOW);

 duration = pulseIn(echoPin, HIGH);

 distance = duration * 0.034 / 2;
 int LDRValue = analogRead(LIGHT_SENSOR_PIN);

 if (LDRValue < ANALOG_THRESHOLD)
   digitalWrite(LED_PIN, HIGH);
 else
   digitalWrite(LED_PIN, LOW);

  LCD.setCursor(0,0);
  LCD.print("Distance: ");
  LCD.print(distance);
```

```
  LCD.println(" cm");
  LCD.setCursor(0,1);
  LCD.print("LDRValue: ");
  LCD.println(LDRValue);

 Serial.print("Distance: ");
 Serial.println(distance);
 Serial.print("LDRValue: ");
 Serial.println(LDRValue);
 delay(2000);

 Blynk.virtualWrite(V1, distance);
 Blynk.virtualWrite(V2, LDRValue);

}

void setup() {
 Serial.begin(115200);

 pinMode(LED_PIN, OUTPUT);
 pinMode(trigPin, OUTPUT);
 pinMode(echoPin, INPUT);
 LCD.init();
 LCD.backlight();
 LCD.setCursor(1, 0);
 LCD.print("IOT SMART HOME");
 LCD.setCursor(3, 1);
 LCD.print("MK CHANNEL");
 delay(5000);
 LCD.clear();
```

```
  Blynk.begin(auth, ssid, pass);
  timer.setInterval(1000L, sendSensor);
}

void loop() {
  Blynk.run();
  timer.run();
}
```