



**SURYA GROUP OF INSTITUTIONS
SCHOOL OF ENGINEERING AND TECHNOLOGY
VIKIRAVANDI**

**COURSE NAME: PROFESSIONAL READINESS FOR
INNOVATION, EMPLOYMENT AND ENTREPRENEURSHIP**

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ASSIGNMENT 1:

BUILD A SMART HOME IN WOKWI WITH MINIMUM 2 SENSORS, LED, and BUZZER.

```
const int buzzerPin = 2;
const int ledPin1 = 3;
const int ledPin2 = 4;
const int ledPin3 = 5;

int menuSelection = 0;
int ledSpeed = 500;
int ledBrightness = 128;
int selection = 0;
int buzzerState = LOW;

void setup() {
  Serial.begin(9600);

  pinMode(buzzerPin, OUTPUT);
  pinMode(ledPin1, OUTPUT);
  pinMode(ledPin2, OUTPUT);
  pinMode(ledPin3, OUTPUT);
```

```
digitalWrite(buzzerPin, LOW);  
digitalWrite(ledPin1, LOW);  
digitalWrite(ledPin2, LOW);
```

```

digitalWrite(ledPin3, LOW);
Serial.println("MENU:");
Serial.println("1. Toggle buzzer on/off");
Serial.println("2. Increase LED 2 speed");
Serial.println("3. Decrease LED 2 speed");
Serial.println("4. Toggle LED 3 brightness");
Serial.println();
Serial.print("Selection: ");
}

void loop() {
    int buzzerPinStateLast = digitalRead(buzzerPin);
    if (Serial.available()) {
        int inputChar = Serial.parseInt();

        switch (inputChar) {
            case 1:
                //Serial.println ("1");
                //digitalWrite(buzzerPin, !digitalRead(buzzerPin));
                ToggleBuzzer();
                selection = 0;
                break;
            case 2:
                Serial.println("case 2");
                ledSpeed -= 50;
                if (ledSpeed < 50) {
                    ledSpeed = 50;
                }
                break;
            case 3:
                Serial.println("case 3");
                ledSpeed += 50;
                if (ledSpeed > 1000) {
                    ledSpeed = 1000;
                }
                break;
            case 4:
                Serial.println("case 4");
                if (ledBrightness == 0) {
                    ledBrightness = 128;
                } else {
                    ledBrightness = 0;
                }
                break;
            default:
                break;
        }
    }

    digitalWrite(ledPin1, !digitalRead(ledPin1));
    delay(500);

    static unsigned long lastBlinkTime = 0;
    if (millis() - lastBlinkTime > ledSpeed) {

```

```

    digitalWrite(ledPin2, !digitalRead(ledPin2));
    lastBlinkTime = millis();
}

analogWrite(ledPin3, ledBrightness);
//Serial.println("MENU:");
//Serial.println("1. Toggle buzzer on/off");
//Serial.println("2. Increase LED 2 speed");
//Serial.println("3. Decrease LED 2 speed");
//Serial.println("4. Toggle LED 3 brightness");
//Serial.println();
//Serial.print("Selection: ");
//delay (5000)
}
void ToggleBuzzer ()
{
    buzzerState= (buzzerState) ? LOW : HIGH;
    digitalWrite(buzzerPin, buzzerState);
    //int a = digitalWrite(buzzerPin, LOW);
    //if (a == 1)
    //{
        //digitalWrite(buzzerPin, HIGH);
        //digitalWrite(buzzerPin HIGH); attempt no. 3 failed with multiple errors
    // } else
    // {
        // digitalWrite(buzzerPin, LOW);
    // }
}

```

OUTPUT:



