IOT ASSIGNMENT 1

```
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);
 // }

}
```

FOR DIAGRAM

{

```
  "version": 1,
  "author": "Anonymous maker",
  "editor": "wokwi",
  "parts": [
    { "type": "wokwi-arduino-mega", "id": "mega", "top": 0, "left": 0, "attrs":
{} },
    {
      "type": "wokwi-resistor",
      "id": "r1",
      "top": -50.47,
      "left": 195.18,
      "rotate": 90,
      "attrs": { "value": "1000" }
    },
    {
      "type": "wokwi-led",
```

```
      "id": "led1",
      "top": -152.35,
      "left": 170.65,
      "attrs": { "color": "red" }
    },
    {
      "type": "wokwi-led",
      "id": "led2",
      "top": -152.51,
      "left": 195.35,
      "attrs": { "color": "red" }
    },
    {
      "type": "wokwi-led",
      "id": "led3",
      "top": -153.03,
      "left": 219.3,
      "attrs": { "color": "red" }
    },
    {
      "type": "wokwi-resistor",
      "id": "r2",
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      "left": 173.85,
      "rotate": 90,
      "attrs": { "value": "1000" }
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    {
      "type": "wokwi-resistor",
      "id": "r3",
      "top": -54.07,
      "left": 217.58,
      "rotate": 90,
      "attrs": { "value": "1000" }
    },
    {
      "type": "wokwi-buzzer",
      "id": "bz1",
      "top": -152.47,
      "left": 262.08,
      "attrs": { "volume": "0.1" }
    }
  ],
  "connections": [
    [ "led1:C", "mega:GND.1", "green", [ "v25.32", "h-36.29" ] ],
```

```
    [ "led2:C", "mega:GND.1", "green", [ "v28.6", "h-76.08" ] ],
    [ "led3:C", "mega:GND.1", "green", [ "v28.6", "h-114.1" ] ],
    [ "r2:1", "led1:A", "green", [ "h0" ] ],
    [ "led2:A", "r1:1", "green", [ "v0" ] ],
    [ "r3:1", "led3:A", "green", [ "h0" ] ],
    [ "bz1:1", "mega:GND.1", "green", [ "v0.1", "h-169.92" ] ],
    [ "mega:3", "r3:2", "green", [ "v-15.1", "h14.17" ] ],
    [ "mega:4", "r1:2", "green", [ "v0" ] ],
    [ "mega:5", "r2:2", "green", [ "v0" ] ],
    [ "mega:2", "bz1:2", "green", [ "v-22.43", "h60.67" ] ]
  ],
  "dependencies": {}
}
```