ASSIGNMENT - 1

LINK - https://wokwi.com/projects/362998207785498625

PROGRAM

```
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:
  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);
}
void ToggleBuzzer ()
```

```
{
  buzzerState= (buzzerState) ? LOW : HIGH;
    digitalWrite(buzzerPin, buzzerState);

}
```

OUTPUT: