

LAB-6 REPORT

TABLE NO:-42

ROOM NO:-117

NAME:-SANTHOSH

ROLL NO:-2024102054

NAME:-AKSHAY

ROLL NO:-2024102014

MIT app inventor settings:-

1)we need to go to

<http://ai2.appinventor.mit.edu/> and then log in with our google account

2)now we should download the .aia file then import it in MIT app inventor

By selecting "Projects" → "Import project (.aia) from my computer"

3)now use the same wifi used in the laptop

After setting up the MIT app inventor

Part-1

OBJECTIVE:-

To control the LED by using the bluetooth module and knowing to control the MIT app inventor

EQUIPMENT REQUIRED:-

Bluetooth Module,LED,arduino,lap top,android phone with MIT app inventor installed

PROCEDURE:-

For our requirement we need the connections as

Output should be given to the LED from the arduino pin let us say it as 13 th pin and give the negative pin to the ground pin

Give the transmitter pin of the bluetooth module to a arduino pin let it be 10 and receiver pin of the bluetooth module to a arduino pin let it be 9

Dump the code given below to the arduino

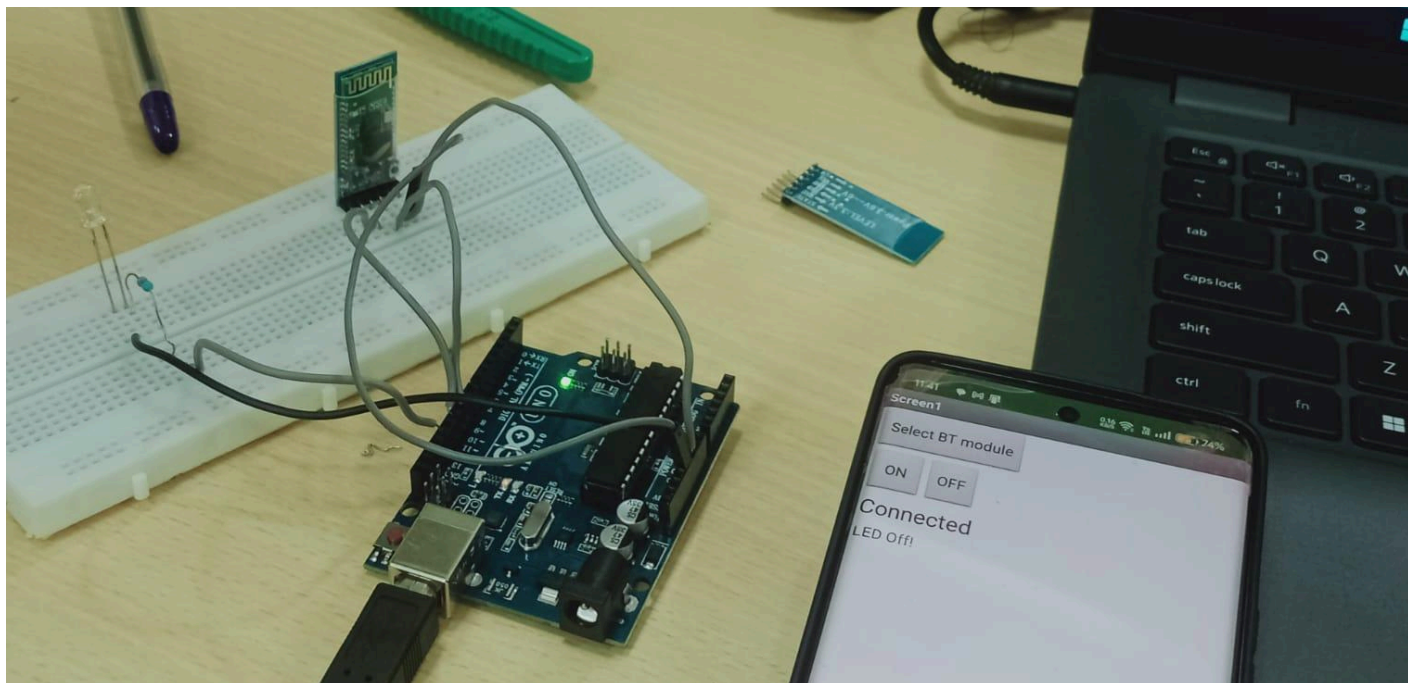
```
#include <SoftwareSerial.h>
SoftwareSerial mySerial(10, 11); // 10 - Rx, 11 - Tx
int ledpin = 13; // LED connected to pin 13
int Data;
void setup() {
  mySerial.begin(9600);
  Serial.begin(38400);
  pinMode(ledpin, OUTPUT);
}
void loop() {
  if (mySerial.available()) {
    Data = mySerial.read();
    if (Data == 49) {
      digitalWrite(ledpin, HIGH);
      mySerial.println("LED On!");
      Serial.print("Hey");
    } else if (Data == 48) {
      digitalWrite(ledpin, LOW);
      mySerial.println("LED Off!");
      Serial.println("Bey");
    }
  }
}
```

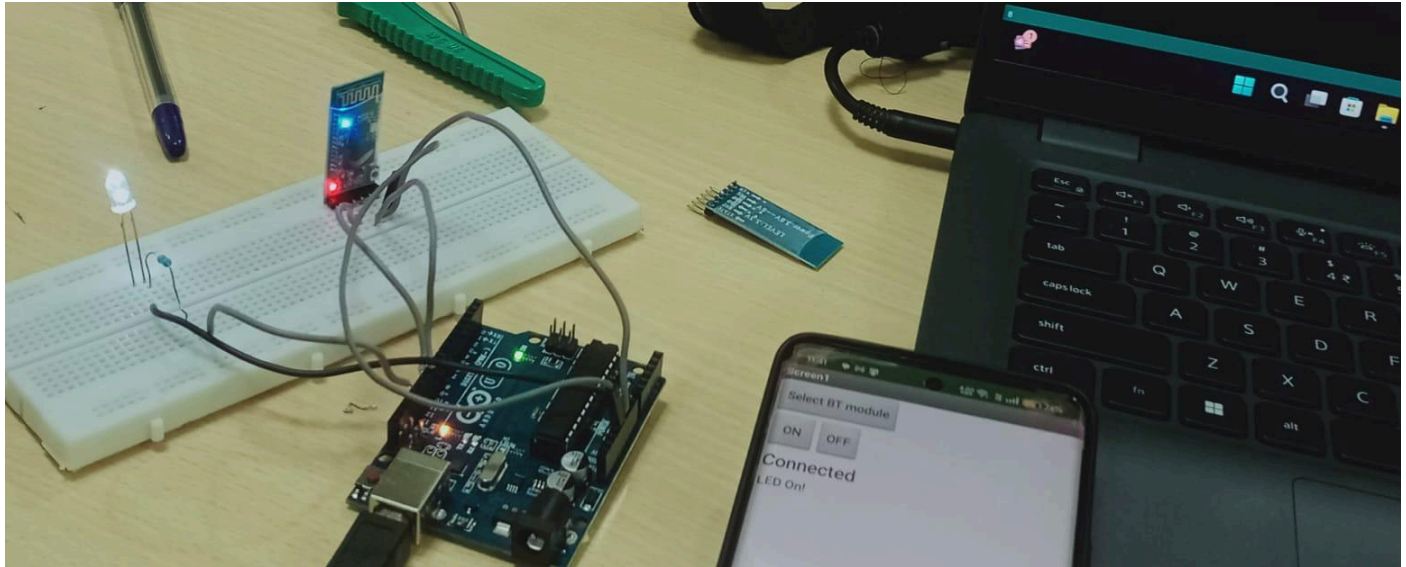
```
}  
}  
Serial.println(Data);  
delay(100);  
}
```

OBSERVATIONS AND RESULTS:-

We can observe the bluetooth connection between the android phone and the arduino which turns on and off the LED Light

IMAGES:-





CONCLUSION:-

The output from the android phone is received is received by the bluetooth module and will be given to the arduino and the output received will be in the form of character

Part-2

OBJECTIVE:-

To control the ultra sonic sensor by using the bluetooth module and knowing to control the MIT app inventor

EQUIPMENT REQUIRED:-

Computer with Internet access, Android smartphone or tablet, Arduino Uno, HC05 Bluetooth module, ultra sonic sensor

PROCEDURE:-

For our requirement we need the connections as

Connect the echo pin and trig pin of the ultrasonic sensor to the arduino

Give the transmitter pin of the bluetooth module to a arduino pin let it be 11 and receiver pin of the bluetooth module to a arduino pin let it be 10

Dump the code given below to the arduino

Code for arduino:-

```
#include <SoftwareSerial.h>
```

```
SoftwareSerial mySerial(10, 11); // 10 - Rx, 11 - Tx
```

```
int ledpin = 13; // LED connected to pin 13
```

```
int Data;
```

```
long distance ;
long duration;
void setup() {
    mySerial.begin(9600);
    Serial.begin(38400);
    pinMode(ledpin, OUTPUT);
    pinMode(8, OUTPUT);
    pinMode(9, INPUT);
}
void loop() {
    // Serial.print("HEY");
    if (mySerial.available()) {
        Data = mySerial.read();
        if (Data == 49) {
            digitalWrite(ledpin, LOW);
            mySerial.println("LED On!");
            Serial.print("Hey\n");}
        else if (Data == 48) {
            digitalWrite(ledpin, HIGH);
            mySerial.println("LED Off!");
            Serial.println("Bey");
        }
    }
}
```

```
}  
if (Data == 49) {  
    //digitalWrite(ledpin, LOW);  
    //mySerial.println("LED On!");  
    //Serial.print("Hey\n");  
    digitalWrite(8,LOW);  
    delayMicroseconds(500);  
    digitalWrite(8, HIGH);  
    delayMicroseconds(500);  
    digitalWrite(8, LOW);  
    duration = pulseIn(9, HIGH);  
    distance = duration * 0.034 / 2;  
    Serial.print("Distance: ");  
    Serial.print(distance);  
    Serial.print(" cm\n");  
    mySerial.println("Distance: ");  
    mySerial.println(distance);  
    mySerial.println(" cm\n");  
    delay(1000);  
}
```



```
// Serial.print("BEY");  
Serial.println(Data);  
delay(100);  
}
```

OBSERVATION:-

We can observe that we can measure the distance by using this ultrasonic sensor and make it print on our android phone

IMAGES:-

CONCLUSION:-

We can conclude we are getting the distance by sending a wave by ultrasonic sensor and calculating the time it takes to receive and multiply it with the speed of the sound wave