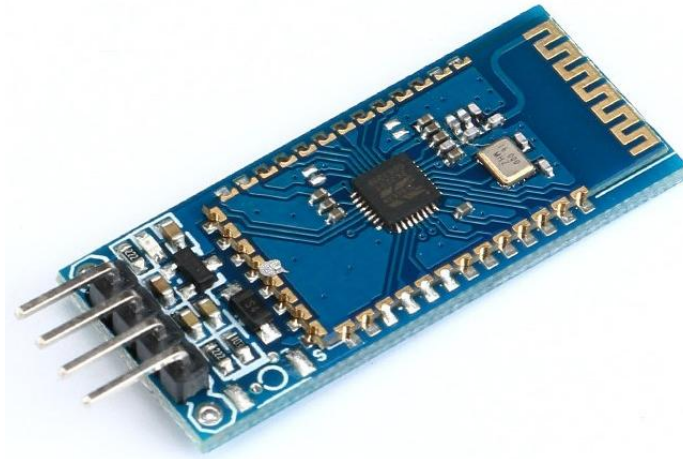## Arduino BT-06 Serial Port Bluetooth Module

Introduction:

The BT-06 is a class 2 slave Bluetooth module designed for transparent wireless serial communication. Once it is paired to a master Bluetooth device such as PC, smart phones and tablet, its operation becomes transparent to the user. All data received through the serial input is immediately transmitted over the air. When the module receives wireless data, it is sent out through the serial interface exactly at it is received. No user code specific to the Bluetooth module is needed at all in the user microcontroller program.

The BT-06 will work with supply voltage of 3.6VDC to 6VDC, however, the logic level of RXD pin is 3.3V and is not 5V tolerant. A Logic Level Converter is recommended to protect the sensor if connect it to a 5V device (e.g Arduino Uno and Mega).

Objective:

Control a LED power (on and off) using Bluetooth module.

Components:

- Arduino Uno Board
- Arduino BT-06 Serial Port Bluetooth Module
- LED
- 1k Resistor
- Usb Cable
- Several Jumper Wires

Procedures:

Step 1: Build the circuit.

The connection between the Arduino BT-06 Serial Port Bluetooth Module and the Arduino Uno Board:

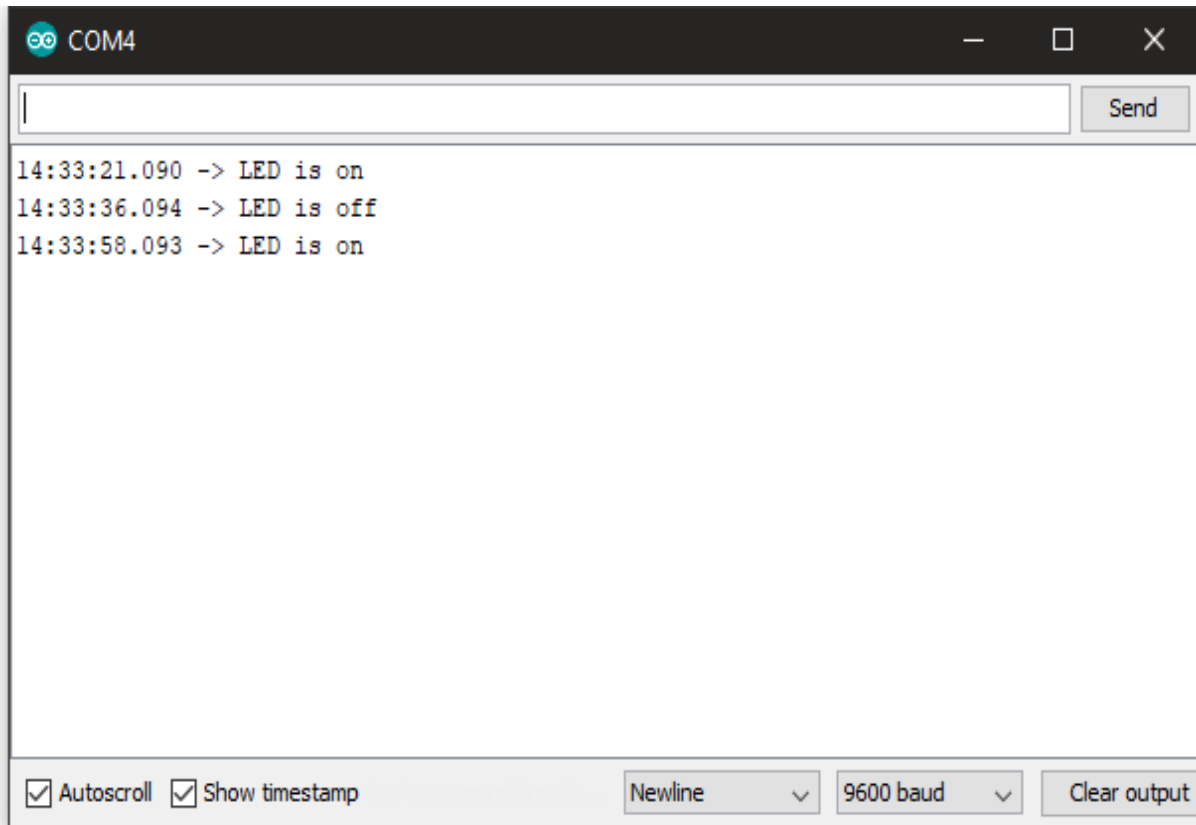| Arduino BT-06 Serial Port Bluetooth Module	Arduino Uno Board
VCC	5V
GND	GND
TXD	PIN 1
RXD	PIN 0
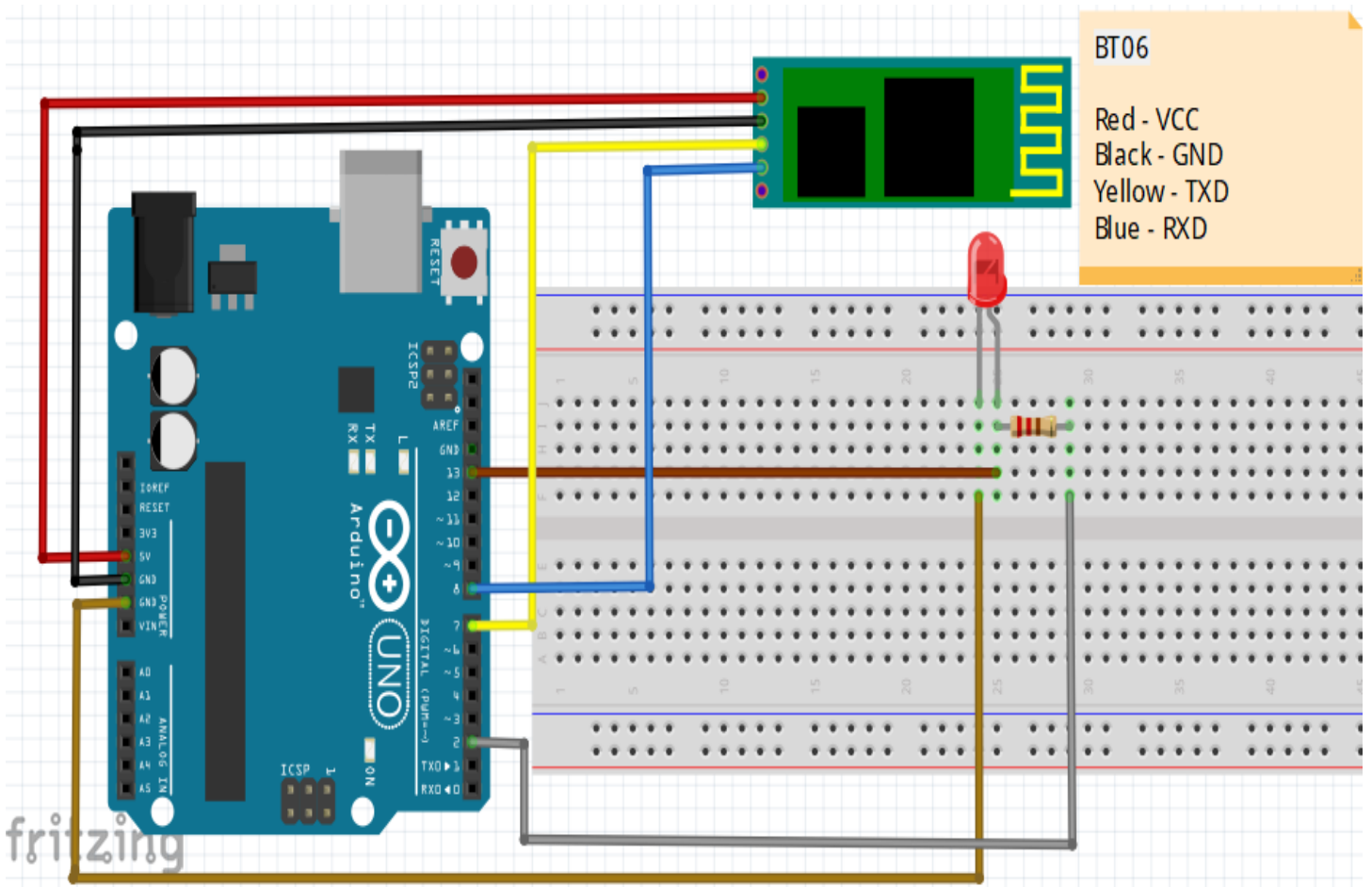
Step 2: Insert the sample programming provided below by copy and paste it into Arduino IDE.

```
char blueToothVal;          //value sent over via bluetooth
char lastValue;             //stores last state of device (on/off)

void setup()
{
 Serial.begin(9600);
 pinMode(13,OUTPUT);
}



void loop()
{
  if(Serial.available())
  {//if there is data being recieved
    blueToothVal+=char (Serial.read()); //read it
  }
  if (blueToothVal=='n')
  {//if value from bluetooth serial is n
    digitalWrite(13,HIGH);         //switch on LED
    if (lastValue!='n')
      Serial.println(F("LED is on")); //print LED is on
    lastValue=blueToothVal;
  }
  else if (blueToothVal=='f')
  {//if value from bluetooth serial is n
    digitalWrite(13,LOW);          //turn off LED
    if (lastValue!='f')
      Serial.println(F("LED is off")); //print LED is on
    lastValue=blueToothVal;
  }
  delay(1000);
}
```

Step 3: Open the serial monitor to observe the result as shown below.