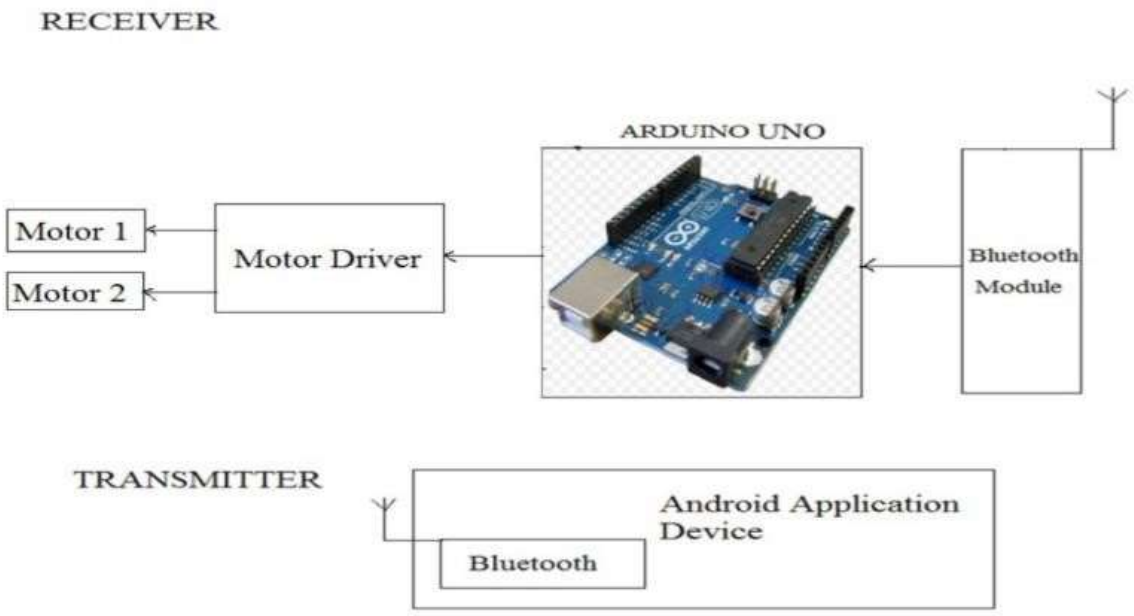
Exp 4:- Design a smart phone controlled light system

Circuit Diagram:-



Theory: -

Concept used:-

- The Arduino board can supply a power of 5V as digital output signals through the 14 pins (namely 0-13) present in it as digital input or output pins. The GND pin of the Arduino board acts as ground (It provide 0V).
- The Arduino Bluetooth module at the other end receives the data and sends it to the Arduino through the TX pin of the Bluetooth module (connected to RX pin of Arduino). The code uploaded to the Arduino checks the received data and compares it. If the received data is 1, the LED turns ON.

Learning and Observation: -

Learnings:

- Learned how to use Bluetooth module with arduino.
- Learned how to make smart LED.

Arduino Pins | Bluetooth Pins

- RX (Pin 0) ———> TX
- TX (Pin 1) ———> RX
- 5V ———> VCC
- GND ———> GND
- We learned how to use the HC-05 module for controlling Arduino via Bluetooth communication

Observations:-

- When the code is uploaded to the Arduino broad it worked accordingly i.e. the led glows properly when turned on with the help of mobile phone app created with mit app inventer.

Problem and Troubleshooting:-

- The code was not uploading to the Arduino because of the wrong port selection. Make sure to choose the correct port just after connecting Arduino with the PC.
- Problem in compilation due to syntax error. So make sure to write the correct code
- Problem in sketching i.e. code uploading due to problem in Arduino IDE. If this problem is encountered start the IDE again.

- Make sure the connections are correct.

Precautions:-

- Make sure the circuit is closed
- The connections at different points should not be loose and the pins should be inserted properly.
- Make sure Bluetooth module is not damaged.
- Handle Bluetooth module pins with care and don’t bend the PINS of it.

Learning Outcomes:-

• Through this experiment I have gained the skill of making a circuit using different hardware and controlling the functions done by that circuit with the help of codes.

• Familiar with Arduino environment and its applications.

• Getting familiar with the working of light sensor.

• Able to Design Smart systems applications.