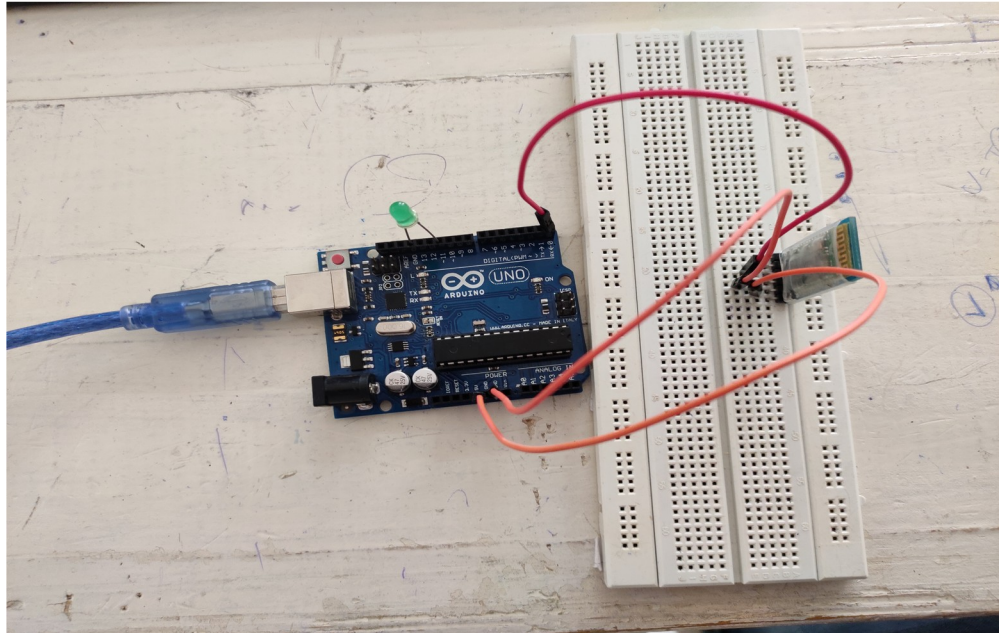


Exp.4: Smart Phone LED control

Circuit Diagram:



Theory

Concept Used:

The flashing of LED is controlled by an app in smartphone via wireless signal over **Bluetooth**.

Learning and Observations:

Following observations were recorded during the experiment:

- The bluetooth module used in the experiment has 6 pins namely VCC(power supply), GND(Ground pin), TXD(Transmitter pin), RXD(Receiver pin), EN and STATE pin.
- The TX of the Bluetooth module is connected to the RX pin of the ARDUINO UNO so that the ARDUINO UNO can receive the input from the bluetooth module.
- The bluetooth module requires 3.6 to 6V for its operation.

Problems and Troubleshooting:

The experiment was performed successfully without any problem.

Precautions:

The following precautions need to be considered while performing this experiment:

- The connections of the USB in both the PC and the ARDUINO UNO board should be snug.
- The USB ports of the PC and the ARDUINO UNO should be in a working condition.
- The sketch should be logically and syntactically correct and germane to the experiment that needs to be performed.
- The correct serial port should be selected that is the one through which the ARDUINO UNO has been connected.
- Look for errors during compilation and upload of the executable to the ARDUINO UNO.
- Disconnect the digital 1(TX) and 0(RX) pins while uploading the program to the board.
- Do not open more than one instance of the ARDUINO IDE at a time.
- The bluetooth module needs to be handled with care and proper voltage should be supplied to it.

Learning outcomes:

The various learnings as the outcome of performing the above-mentioned experiment are:

- Ability to identify and connect the bluetooth module with the ARDUINO through proper connections using a breadboard.