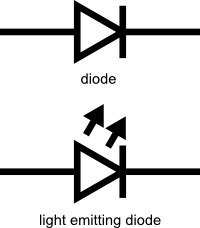
**Aim:** Design a LED Chaser (Various sequences)

**Apparatus:** ⦿ Arduino Board

⦿ LEDs

⦿ Breadboard

⦿ Wires

**Theory:** LEDs are a particular type of diode that convert electrical energy into light. LED stands for ‘*Light Emitting Diode*’. In 1962, Nick Holonyak, Jr. invented the first LED that could produce visible red light. LEDs are comprised of compound semiconductor materials, which are made up of elements from group III and group V of the periodic table, commonly used to make LEDs are gallium arsenide (GaAs) and gallium phosphide (GaP). This is reflected in the similarity between the diode and LED schematic symbols:

LED Chaser are semiconductor integrated circuits used to turn on and off groups of light emitting diodes either sequentially or according to a programmed pattern continuously. A chaser is an electrical application where strings of adjacent light bulbs cycle on and off frequently to give the illusion of lights moving along the string. They are found in advertising displays and in running-light ‘rope’ displays in small discos, etc.

**Problems & Troubleshooting:**

1. Problem in fixing wire from bread board to Arduino.
2. Problem in writing Arduino programming as in LED Chaser swing Last and first LED repeats respectively.
3. Problem in finding the Positive and negative terminal of LED.

**Precautions:**

1. Correct connection of negative and positive terminal of led.
2. Connecting wires to respective pins correctly.
3. Don’t put Arduino board near water.
4. Check the USB port of computer is working.
5. Check the Arduino software and select the correct port (in which Arduino is connected).

**Learning Outcome:**

1. Arduino function as a controller in led chaser.
2. Bread board is used to organize the circuit.
3. Learned how to recognize the positive and negative terminal of LEDs even without using a multimeter.
4. Learned how to connect multiple jump wires/connecting wires correctly with the help of Breadboard.

**Observation:**

1. The LED glows like a Flash.
2. Insert the Jump Wire in correct mentioned Pin.
3. Writing Correct program as sequence repeat several times in some chaser.

**Circuit Diagram:** Circuit Diagram are in the respective folders of Chaser.

\*Source code/Program in Code File.ino of respective Folders of Chaser.

**Result:** Chasing of LED was verified after uploading the program.