This project simulates a flowing LED light effect, where multiple LEDs light up in sequence, creating a visually appealing flowing pattern. The setup involves using an Arduino, a series of LEDs, resistors, and connecting wires. The LEDs will turn on and off in a sequence, giving the illusion of movement or flow.

Circuit Setup:

1. **Arduino Uno:** The Arduino will control the sequence of LEDs.

2. **LEDs:** Arrange the LEDs in a row on the breadboard. Each LED will be connected to a different digital pin on the Arduino.

3. **Resistors:** Connect a 220Ω resistor in series with each LED to prevent excess current that could damage the LED.

4. **Wiring:** Use jumper wires to connect the LEDs to the Arduino pins. The anode (longer leg) of each LED goes to the Arduino pin, and the cathode (shorter leg) connects to the ground (GND) via the resistor.

5. **Power Supply:** The Arduino is powered either via USB or an external power source.

Working:

1. The program written on the Arduino controls the sequence in which each LED lights up.

2. Each LED is turned on for a short time, and then it turns off before the next LED in the sequence lights up.

3. The pattern repeats, creating the effect of flowing or moving lights.

4. The LEDs can flow in one direction (e.g., left to right) or alternate back and forth to create different effects.

5. In Tinkercad, the simulation will allow you to visualize the LED flow without the physical setup.