Project 6: Controlling LEDs using IR Remote and Arduino UNO on TinkerCAD

The components used in this project are:

1. **Arduino Uno**
   - Main microcontroller board used to run the code and control the LEDs.
2. **Breadboard**
   - Used to connect and organize the circuit without soldering.
3. **IR Remote**
   - Used to send signals to the IR sensor.
4. **IR Receiver Sensor (TSOP or similar)**
   - Receives the signals from the IR remote.
5. **LEDs** (3 Total):
   - **1x Blue LED**
   - **1x Orange LED**
   - **1x Green LED**
   - Used as output indicators based on remote input.
6. **Resistors (3x 220 ohms)**
   - Connected in series with each LED to limit current and prevent damage.
7. **Jumper Wires**
   - Used for connections between the Arduino, breadboard, and componen

Description :

1. **Connect the LEDs:**
   - **Anodes** (longer leg) of the three LEDs are connected to:
     - Blue LED → **Pin 2**

- Orange LED → **Pin 3**
- Green LED → **Pin 4**
  (All on the Arduino UNO board)

2. **Resistors and Grounding:**
   - **Cathodes** (shorter leg) of each LED are connected to **220-ohm resistors**, and the other ends of the resistors go to the **GND rail** of the breadboard.
3. **IR Sensor Wiring:**
   - **Middle terminal (GND)** of the IR sensor → **GND** of the Arduino.
   - **Third terminal (VCC)** of the IR sensor → **+5V** of the Arduino.
   - **First terminal (OUT)** of the IR sensor → **Pin 12** of the Arduino.
6. **Common Ground:**
   - **GND pin** of the Arduino board is also connected to the **GND rail** of the breadboard to ensure a common ground reference.