Understanding the Circuit Connections

To begin, we need to establish the **power supply and ground lines** on the breadboard. This is achieved by:

- Connecting the **5V pin** of the Arduino to one of the power rails on the breadboard.
- Connecting the **GND (Ground) pin** of the Arduino to another rail on the breadboard.
- In the circuit diagram, **red wires** indicate power connections, while **green wires** represent ground connections.

LDR (Light Dependent Resistor) Connections:

The LDR has **two terminals**:

- One terminal is directly connected to **Analog pin A0** of the Arduino.
- The same terminal is also connected to the **ground rail** of the breadboard via a **resistor**.
- The second terminal of the LDR is connected to the **5V power rail** on the breadboard.

LED Connections:

The LED acts as an **output indicator** in this circuit:

- The **anode (positive terminal)** is connected to **digital pin 9** on the Arduino.

- The **cathode (negative terminal)** is connected to the **ground rail** of the breadboard through a **resistor** to limit current.

Multimeter Connections:

A **multimeter** is used as an output indicator in this setup:

- **Digital pin 9** (which controls the output signal) is connected to the **positive (RED) terminal** of the multimeter.

- The **negative (BLACK) terminal** of the multimeter is connected to the **ground rail** on the breadboard.
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