Circuit Connections Explanation

To set up the circuit, we begin by establishing the power and ground connections. The **5V pin** of the Arduino is connected to one power rail of the breadboard, while the **GND pin** is linked to the other rail. These rails will serve as the power and ground supply for various components in the circuit.

Temperature Sensor Connections:

The temperature sensor has three pins: **Vs (Supply), Vout (Output), and GND (Ground).**

- The **Vs pin** (operating between 4V-20V) is connected to the **5V power rail** on the breadboard.
- The **GND pin** is connected to the **ground rail** of the breadboard.
- The **Vout pin** is connected to **Analog pin A1** on the Arduino, allowing it to read temperature data.

Gas Sensor Connections:

The gas sensor consists of **six pins**, three of which are dedicated to power:

- These **three power pins** are connected directly to the **5V power rail** on the breadboard.
- Among the remaining three pins:
    - One is connected to **Analog pin A0** on the Arduino for data reading.

    - The middle pin is connected to the **ground rail** on the breadboard.

    - The third pin is connected to a **resistor**, which is then connected to **ground**.

Piezo Buzzer Connections:

The piezo buzzer is connected externally to the circuit:

- Its **ground pin** is connected to the **ground rail** on the breadboard.

- The other pin is connected to **digital pin 7** of the Arduino, allowing it to be controlled via code.

LED Connections:

The LED is connected directly to the Arduino:

- The **cathode** (negative terminal) is connected to the **GND pin** of the Arduino.

- The **anode** (positive terminal) is connected through a **resistor** to **digital pin 13** of the Arduino, enabling it to be turned on and off via programming.