🔥 Arduino Gas Detector with MQ5 Sensor

🚀 Project Overview:

This project involves building a simple gas detection system using an MQ5 gas sensor and an Arduino Uno. The system aim is to designed ,that detect gases such as methane and LPG in real time. When the gas concentration exceeds a set threshold, an LED indicator is triggered, alerting the user to the presence of gas. The project is ideal for use in home safety, industrial applications, and vehicle gas leak detection.

💡 Components Used:

Arduino Uno

MQ5 Gas Sensor

LED

220Ω Resistor

Jumper Wires

Breadboard

⚙️ Functionality:

The MQ5 gas sensor continuously monitors gas levels and outputs an analog signal based on the concentration of gas.

The Arduino Uno reads the sensor's output and compares it to a predefined threshold.

If the gas concentration exceeds the threshold, the LED will light up,

indicating that gas is detected.

Demonstration: The project was tested by burning paper to create smoke and simulate gas detection.

🛠️ Circuit Connections:

MQ5 Sensor:

VCC -> 5V (Arduino)

GND -> GND (Arduino)

AO -> A0 (Arduino)

LED:

Anode (+) -> Pin 8 (via 220Ω resistor)

Cathode (-) -> GND (Arduino)

💻 Code:

The code reads the sensor's analog output, compares it to a threshold, and turns on the LED when gas is detected. It also prints the gas levels to the Serial Monitor for debugging purposes. [See the code in this repository(https://github.com/bgfgug/Gas-Detection-Project/blob/main/Code.txt).

📝 Applications:

Home Gas Leakage Detection

Industrial Gas Monitoring

Vehicle Gas Leak Detection