🧠 Project Title:

Speech recognition system

📘 Project Summary:

This project demonstrates a basic home automation system using Arduino Uno, where devices (like fan and bulb) are controlled by voice commands. The system uses serial communication to receive text-based commands like "fan on" or "bulb off" through a voice-to-text module or the Serial Monitor. Based on these commands, the Arduino turns ON or OFF LEDs representing real appliances

⚙️ Components Used:

Arduino Uno

Breadboard

Green LED (for Fan)

Red LED (for Bulb)

2 x 220-ohm resistors

Jumper wires

USB Cable (for power & serial input)

🔌 Working Principle:

Voice input is converted to text commands (e.g., using Android app or Serial Monitor).

Arduino reads these commands via Serial Monitor.

It matches commands like "fan on", "bulb off", etc.

Based on the command, it turns ON/OFF respective LEDs.

🎯 Applications:

Basic demo of Voice-controlled automation

Prototype for smart home system

Useful for beginners in IoT and Embedded Systems

📌 Future Scope:

Use Bluetooth modules like HC-05 for wireless voice control.

Integrate actual relays for AC appliance control.

Add feedback via LCD or buzzer for user interaction.