CLAP-ACTIVATED LED USING ARDUINO AND SOUND SENSOR

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MATRICULATION NUMBER: TTSET25G022

Introduction

This project demonstrates how to control LED using a clap sound. It uses an Arduino board, an LED, and sound sensor. The sound sensor detects clap, and the Arduino processes the signal to turn the LED on or off.

❖ Objective

The main objective of this project is to build a simple system where each clap sound toggles the LED's state (ON to OFF or OFF to ON).

❖ Components Required

- Arduino board (e.g., Arduino Uno)
- Sound sensor module (KY-038 or KY-037)
- LED
- Resistor (220)
- Jumper wires
- Breadboard

❖ Working Principle

1. The sound sensor detects a loud sound such as a clap.
2. It sends a digital signal to the Arduino when the sound exceeds a certain threshold.
3. The Arduino code checks the input signal and changes the state of the LED.
4. If the LED was OFF, it turns ON. If it was ON, it turns OFF.

❖ Applications

- Automatic light control using claps.
- Hands-free switching for convenience.

❖ Conclusion

This report is a simple example of how Arduino can be used to interact with the environment. By combining a sound and LED, we can create a clap-activated system that shows how input signals can control electronic devices in real life.