🔧 Project Description:

This project is designed to automate parking slot management using **IR sensors**, **servo motors**, and an **LCD display** to show real-time slot availability. It detects the entry and exit of vehicles and opens or closes a barrier gate accordingly. The number of available slots is updated live and displayed on the screen.

📋 Components Required:

- Arduino Uno
- 2 × IR Sensors (Entry & Exit detection)
- 1 × Servo Motor (Gate control)
- 1 × 16x2 LCD Display (to show available slots)
- 1 × Potentiometer (for LCD contrast)
- Jumper wires and breadboard
- Power supply

⚙️ Working Principle:

- When a car is detected by the **entry IR sensor**, the **servo motor opens the gate**, and the system **reduces the slot count**.
- When the car passes the **exit IR sensor**, the **gate opens again**, and **slot count increases**.
- The current status (e.g., "Slot Available" or "Full") is shown on the **LCD screen**.