



## **DAY 1 — Introduction to Robotics & Arduino Basics**

### **Topics**

- What is Robotics?
  - Introduction to Arduino UNO
  - Input and Output devices
  - Digital Pins
  - Uploading code
  - Arduino IDE basics
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## **DAY 2 — Sensor Learning (Ultrasonic Sensor)**

### **Topics**

- What is a sensor?
  - Ultrasonic Sensor working
  - Distance measurement
  - Input devices
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## **DAY 3 — Motor Control & Robot Movement**

### **Topics**

- DC Motor basics
- Motor Driver L298N
- Why motor driver is needed
- Robot movement directions

## **DAY 4 — Combining Sensor + Motor**

### **Topics**

- Decision making in robotics
- Automation logic



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- Combining modules
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## DAY 5 — Final Assembly & Testing

### Topics

- Full robot assembly
- Wiring management
- Troubleshooting
- Testing & debugging

### Final Project

#### Complete Obstacle Avoiding Robot

Features:

- Detects obstacles
  - Stops automatically
  - Changes direction
  - Moves autonomously
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### Bonus Activities (Optional)

#### Add LED Eyes

Robot eyes glow when obstacle detected.

#### Add Buzzer Alert

Robot makes sound near obstacles.