Line Follower Robot – Connections (Arduino UNO + L293D + 2 IR Sensors)

1. Power
- Arduino 5V → IR sensors VCC, L293D Vss (pin 16)
- External battery (6–12 V) + → L293D Vs (pin 8)
- All GNDs (Arduino GND, L293D pins 4,5,12,13, sensors GND, battery –) tied together

2. IR Sensor Connections
Left IR sensor:
- VCC → 5V
- GND → GND
- OUT → Arduino D2

Right IR sensor:
- VCC → 5V
- GND → GND
- OUT → Arduino D3

3. Motor Driver (L293D) to Arduino
- ENA (pin 1) → D5 (PWM) // left motor enable
- IN1 (pin 2) → D6 // left motor +
- IN2 (pin 7) → D7 // left motor –

- ENB (pin 9) → D9 (PWM) // right motor enable
- IN3 (pin10) → D10 // right motor +
- IN4 (pin15) → D11 // right motor –

4. Motors to L293D
Left DC motor:
- one lead → L293D pin 3
- other lead → L293D pin 6

Right DC motor:
- one lead → L293D pin 11
- other lead → L293D pin 14

5. Track Logic
- IR sensors adjusted so OUTPUT = LOW on black line, HIGH on white.