To create a simple car using the L298N motor driver and Arduino, you'll need to connect two DC motors to the L298N module and control them using the Arduino. Here's a basic code and wiring guide.

### Components Needed:

- Arduino (e.g., Uno)

- L298N motor driver

- 2 DC motors

- Power supply (e.g., 9V battery)

- Jumper wires

- Chassis and wheels (for the car)

### Wiring:

1. \*\*Motor A connections (for the left motor):\*\*

- Connect the left motor's wires to the `OUT1` and `OUT2` terminals of the L298N.

2. \*\*Motor B connections (for the right motor):\*\*

- Connect the right motor's wires to the `OUT3` and `OUT4` terminals of the L298N.

3. \*\*Power Supply:\*\*

- Connect the positive wire from the battery to the `12V` terminal on the L298N.

- Connect the negative wire from the battery to the `GND` terminal on the L298N.

4. \*\*Control Pins (from L298N to Arduino):\*\*

- `IN1` → Arduino pin 7 (controls Motor A direction)

- `IN2` → Arduino pin 6 (controls Motor A direction)

- `IN3` → Arduino pin 5 (controls Motor B direction)

- `IN4` → Arduino pin 4 (controls Motor B direction)

- `EN\_A` (Enable Motor A) → Arduino pin 9 (PWM)

- `EN\_B` (Enable Motor B) → Arduino pin 10 (PWM)

- Connect `GND` on the L298N to `GND` on the Arduino.

### Arduino Code:

```cpp

// Define motor control pins

#define EN\_A 9

#define EN\_B 10

#define IN1 7

#define IN2 6

#define IN3 5

#define IN4 4

void setup() {

// Set all the motor control pins as outputs

pinMode(EN\_A, OUTPUT);

pinMode(EN\_B, OUTPUT);

pinMode(IN1, OUTPUT);

pinMode(IN2, OUTPUT);

pinMode(IN3, OUTPUT);

pinMode(IN4, OUTPUT);

// Initial motor stop

digitalWrite(IN1, LOW);

digitalWrite(IN2, LOW);

digitalWrite(IN3, LOW);

digitalWrite(IN4, LOW);

}

void loop() {

// Move forward

digitalWrite(IN1, HIGH);

digitalWrite(IN2, LOW);

digitalWrite(IN3, HIGH);

digitalWrite(IN4, LOW);

analogWrite(EN\_A, 255); // Full speed for Motor A

analogWrite(EN\_B, 255); // Full speed for Motor B

delay(2000); // Move forward for 2 seconds

// Stop

digitalWrite(IN1, LOW);

digitalWrite(IN2, LOW);

digitalWrite(IN3, LOW);

digitalWrite(IN4, LOW);

delay(1000); // Stop for 1 second

// Move backward

digitalWrite(IN1, LOW);

digitalWrite(IN2, HIGH);

digitalWrite(IN3, LOW);

digitalWrite(IN4, HIGH);

analogWrite(EN\_A, 255); // Full speed for Motor A

analogWrite(EN\_B, 255); // Full speed for Motor B

delay(2000); // Move backward for 2 seconds

// Stop

digitalWrite(IN1, LOW);

digitalWrite(IN2, LOW);

digitalWrite(IN3, LOW);

digitalWrite(IN4, LOW);

delay(1000); // Stop for 1 second

}

```

### Explanation:

- \*\*EN\_A & EN\_B\*\*: Control the speed of the motors using PWM signals.

- \*\*IN1, IN2\*\*: Control the direction of Motor A.

- \*\*IN3, IN4\*\*: Control the direction of Motor B.

- The car moves forward for 2 seconds, stops for 1 second, then moves backward for 2 seconds, and repeats.

### Next Steps:

You can modify the code to add more functionality, such as turning left, right, or adding a remote control.