```
#define LEFT_SENSOR A0
#define RIGHT_SENSOR A3
#define FRONT_SENSOR1 A1
#define FRONT_SENSOR2 A2

// L298N Motor Driver Pins
#define ENA 6
#define IN1 7
#define IN2 8
#define ENB 9
#define IN3 10
#define IN4 11

void setup() {
  Serial.begin(9600);

  pinMode(LEFT_SENSOR, INPUT);
  pinMode(RIGHT_SENSOR, INPUT);
  pinMode(FRONT_SENSOR1, INPUT);
  pinMode(FRONT_SENSOR2, INPUT);

  pinMode(ENA, OUTPUT);
  pinMode(IN1, OUTPUT);
  pinMode(IN2, OUTPUT);
  pinMode(ENB, OUTPUT);
  pinMode(IN3, OUTPUT);
  pinMode(IN4, OUTPUT);
}

// Function to move forward
void moveForward(int speed) {
```

```
  digitalWrite(IN1, HIGH);
  digitalWrite(IN2, LOW);
  digitalWrite(IN3, HIGH);
  digitalWrite(IN4, LOW);

  analogWrite(ENA, speed);
  analogWrite(ENB, speed);
}

// Function to turn left
void turnLeft(int speed) {
  digitalWrite(IN1, LOW);
  digitalWrite(IN2, HIGH);
  digitalWrite(IN3, HIGH);
  digitalWrite(IN4, LOW);

  analogWrite(ENA, speed);
  analogWrite(ENB, speed);
}

// Function to turn right
void turnRight(int speed) {
  digitalWrite(IN1, HIGH);
  digitalWrite(IN2, LOW);
  digitalWrite(IN3, LOW);
  digitalWrite(IN4, HIGH);

  analogWrite(ENA, speed);
  analogWrite(ENB, speed);
}
```

```
// Function to stop motors
void stopMotors() {
  digitalWrite(IN1, LOW);
  digitalWrite(IN2, LOW);
  digitalWrite(IN3, LOW);
  digitalWrite(IN4, LOW);

}

void loop() {
  int left = analogRead(LEFT_SENSOR);
  int right = analogRead(RIGHT_SENSOR);
  int front1 = analogRead(FRONT_SENSOR1);
  int front2 = analogRead(FRONT_SENSOR2);

  Serial.println(left);

  int threshold = 500;
  int speed = 70;
  int speedturn = 80;
  String previousmove=" ";

  if ((left > threshold && right < threshold && front1 < threshold && front2 <threshold) || (left < threshold && right > threshold && front1 > threshold && front2 > threshold) ){
    turnLeft(speedturn);
    delay(50);
  }

  else if((left < threshold && right > threshold && front1 < threshold && front2 <threshold) || (left > threshold && right < threshold && front1 > threshold && front2 > threshold)||(left > threshold && right > threshold && front1 > threshold && front2>threshold)){
    turnRight(speedturn);
```

```
    delay(50);


  }else if((left < threshold && right < threshold && front1 > threshold && front2 > threshold) || (left
> threshold && right > threshold && front1 < threshold && front2 < threshold)){

    moveForward(speed);

    delay(50);

  }else if (( left>threshold && front1 > threshold && front2<threshold && right <threshold) || (
left<threshold && front1 < threshold && front2 > threshold && right > threshold)){

    moveForward(speed);

    delay(50);

  }

  else if ((front1 < threshold && front2 < threshold && left < threshold && right < threshold)) {

     if (previousmove== "right"){

       turnLeft(speedturn);

       delay(50);

     }else if(previousmove== "left"){

       turnRight(speedturn);

       delay(50);

     }

  }

    else{

       moveForward(speed);

       delay(50);

    }


}
```