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//updated version
// Define pins for motor driver
const int in1Pin = 7;
const int in2Pin = 4;
const int in3Pin = 9;
const int in4Pin = 8;
const int enA = 5;
const int enB = 6;

// Define pins for ultrasonic sensor
const int trigPin = 13;
const int echoPin = 3;

// Define pins for IR sensor
const int irPin1 = 2;
const int irPin2 = 10;

// Define variables for ultrasonic sensor
long duration;
int distance;

void forward() {
  digitalWrite(in1Pin, LOW);
  digitalWrite(in2Pin, HIGH);
  digitalWrite(in3Pin, LOW);
  digitalWrite(in4Pin, HIGH);
}

void right() {
  digitalWrite(in1Pin, LOW);
  digitalWrite(in2Pin, HIGH);
  digitalWrite(in3Pin, HIGH);
  digitalWrite(in4Pin, LOW);
}

void left() {
  digitalWrite(in1Pin, HIGH);
  digitalWrite(in2Pin, LOW);
  digitalWrite(in3Pin, LOW);
  digitalWrite(in4Pin, HIGH);
}
```

```

void setup() {
// Initialize motor driver pins
pinMode(in1Pin, OUTPUT);
pinMode(in2Pin, OUTPUT);
pinMode(in3Pin, OUTPUT);
pinMode(in4Pin, OUTPUT);
pinMode(enA, OUTPUT);
pinMode(enB, OUTPUT);

// Initialize ultrasonic sensor pins
pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);

// Initialize IR sensor pin
pinMode(irPin1, INPUT);
pinMode(irPin2, INPUT);

// Set initial speed for both motors
analogWrite(enA, 110);
analogWrite(enB, 110);
}

void loop() {
// Read IR sensor input
int irSensorValue1 = digitalRead(irPin1);
int irSensorValue2 = digitalRead(irPin2);

switch ((irSensorValue1 << 1) | irSensorValue2) {
case 0b00:
forward();
break;
case 0b01:
right();
break;
case 0b10:
case 0b11:
left();
break;
}

// Ultrasonic sensor code
digitalWrite(trigPin, LOW);

```

```
delayMicroseconds(2);  
digitalWrite(trigPin, HIGH);  
delayMicroseconds(7);  
digitalWrite(trigPin, LOW);  
duration = pulseIn(echoPin, HIGH);  
distance = duration / 34.2;
```

```
switch (distance < 22) {  
  case true:  
    left();  
    delay(1000);  
    forward();  
    delay(1700);  
    right();  
    delay(1390);  
    forward();  
    delay(200);  
    break;  
  case false:  
    digitalWrite(in1Pin, HIGH);  
    digitalWrite(in2Pin, LOW);  
    digitalWrite(in3Pin, HIGH);  
    digitalWrite(in4Pin, LOW);  
    break;  
}
```

```
delay(0);  
}
```