

CODE:

```
#include <AFMotor.h>
#include <NewPing.h>
#include <Servo.h>

#define TRIG_PIN A0
#define ECHO_PIN A1
#define MAX_DISTANCE 200
#define MAX_SPEED 190
#define MAX_SPEED_OFFSET 20

NewPing sonar(TRIG_PIN, ECHO_PIN, MAX_DISTANCE);

AF_DCMotor motor1(1, MOTOR12_1KHZ);
AF_DCMotor motor2(2, MOTOR12_1KHZ);
Servo myservo;

boolean goesForward=false;
int distance = 100;
int speedSet = 0;

void setup() {

  myservo.attach(10);
  myservo.write(115);
  delay(2000);
  distance = readPing();
  delay(100);
  distance = readPing();
  delay(100);
  distance = readPing();
  delay(100);
  distance = readPing();
  delay(100);
}

void loop() {
  int distanceR = 0;
  int distanceL = 0;
  delay(40);

  if(distance<=15)
  {
    moveStop();
    delay(100);
    moveBackward();
    delay(300);
    moveStop();
  }
}
```

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    delay(200);
    distanceR = lookRight();
    delay(200);
    distanceL = lookLeft();
    delay(200);

    if(distanceR>=distanceL)
    {
        turnRight();
        moveStop();
    }else
    {
        turnLeft();
        moveStop();
    }
    }else
    {
        moveForward();
    }
    distance = readPing();
}

int lookRight()
{
    myservo.write(50);
    delay(500);
    int distance = readPing();
    delay(100);
    myservo.write(115);
    return distance;
}

int lookLeft()
{
    myservo.write(170);
    delay(500);
    int distance = readPing();
    delay(100);
    myservo.write(115);
    return distance;
    delay(100);
}

int readPing() {
    delay(70);
    int cm = sonar.ping_cm();
    if(cm==0)
    {

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    cm = 250;
}
return cm;
}

void moveStop() {
    motor1.run(RELEASE);
    motor2.run(RELEASE);

}

void moveForward() {

    if(!goesForward)
    {
        goesForward=true;
        motor1.run(FORWARD);
        motor2.run(FORWARD);

        for (speedSet = 0; speedSet < MAX_SPEED; speedSet +=2)
        {
            motor1.setSpeed(speedSet);
            motor2.setSpeed(speedSet);

            delay(5);
        }
    }
}

void moveBackward() {
    goesForward=false;
    motor1.run(BACKWARD);
    motor2.run(BACKWARD);

    for (speedSet = 0; speedSet < MAX_SPEED; speedSet +=2)
    {
        motor1.setSpeed(speedSet);
        motor2.setSpeed(speedSet);

        delay(5);
    }
}

void turnRight() {
    motor1.run(FORWARD);
    motor2.run(FORWARD);

    delay(500);
}

```

```
    motor1.run(FORWARD);  
    motor2.run(FORWARD);  
  
}  
  
void turnLeft() {  
    motor1.run(BACKWARD);  
    motor2.run(BACKWARD);  
  
    delay(500);  
    motor1.run(FORWARD);  
    motor2.run(FORWARD);  
  
}
```