**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();

  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)

  {

    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);

}