/\*------ Arduino Fire Fighting Robot Code----- \*/

#include <Servo.h>

Servo myservo;

int pos = 0;

boolean fire = false;

/\*-------defining Inputs------\*/

#define Left\_S 9      // left sensor

#define Right\_S 10      // right sensor

#define Forward\_S 8 //forward sensor

/\*-------defining Outputs------\*/

#define LM1 2       // left motor

#define LM2 3       // left motor

#define RM1 4       // right motor

#define RM2 5       // right motor

#define pump 6

void setup()

{

  pinMode(Left\_S, INPUT);

  pinMode(Right\_S, INPUT);

  pinMode(Forward\_S, INPUT);

  pinMode(LM1, OUTPUT);

  pinMode(LM2, OUTPUT);

  pinMode(RM1, OUTPUT);

  pinMode(RM2, OUTPUT);

  pinMode(pump, OUTPUT);

  myservo.attach(11);

  myservo.write(90);

}

void put\_off\_fire()

{

    delay (500);

    digitalWrite(LM1, HIGH);

    digitalWrite(LM2, HIGH);

    digitalWrite(RM1, HIGH);

    digitalWrite(RM2, HIGH);

   digitalWrite(pump, HIGH); delay(500);

    for (pos = 50; pos <= 130; pos += 1) {

    myservo.write(pos);

    delay(10);

  }

  for (pos = 130; pos >= 50; pos -= 1) {

    myservo.write(pos);

    delay(10);

  }

  digitalWrite(pump,LOW);

  myservo.write(90);

  fire=false;

}

void loop()

{

   myservo.write(90); //Sweep\_Servo();

    if (digitalRead(Left\_S) ==1 && digitalRead(Right\_S)==1 && digitalRead(Forward\_S) ==1) //If Fire not detected all sensors are zero

    {

    //Do not move the robot

    digitalWrite(LM1, HIGH);

    digitalWrite(LM2, HIGH);

    digitalWrite(RM1, HIGH);

    digitalWrite(RM2, HIGH);

    }

    else if (digitalRead(Forward\_S) ==0) //If Fire is straight ahead

    {

    //Move the robot forward

    digitalWrite(LM1, HIGH);

    digitalWrite(LM2, LOW);

    digitalWrite(RM1, HIGH);

    digitalWrite(RM2, LOW);

    fire = true;

    }

    else if (digitalRead(Left\_S) ==0) //If Fire is to the left

    {

    //Move the robot left

    digitalWrite(LM1, HIGH);

    digitalWrite(LM2, LOW);

    digitalWrite(RM1, HIGH);

    digitalWrite(RM2, HIGH);

    }

    else if (digitalRead(Right\_S) ==0) //If Fire is to the right

    {

    //Move the robot right

    digitalWrite(LM1, HIGH);

    digitalWrite(LM2, HIGH);

    digitalWrite(RM1, HIGH);

    digitalWrite(RM2, LOW);

    }

delay(300); //Slow down the speed of robot

     while (fire == true)

     {

      put\_off\_fire();

     }

}