```
// hazem hussein salah 20235007
#define enA 10//Enable1 L298 Pin enA
#define in1 9 //Motor1  L298 Pin in1
#define in2 8 //Motor1  L298 Pin in1
#define in3 7 //Motor2  L298 Pin in1
#define in4 6 //Motor2  L298 Pin in1
#define enB 5 //Enable2 L298 Pin enB

#define R_S A0 //ir sensor Right
#define L_S A1 //ir sensor Left

void setup(){ // put your setup code here, to run once

pinMode(R_S, INPUT); // declare if sensor as input
pinMode(L_S, INPUT); // declare ir sensor as input

pinMode(enA, OUTPUT); // declare as output for L298 Pin enA
pinMode(in1, OUTPUT); // declare as output for L298 Pin in1
pinMode(in2, OUTPUT); // declare as output for L298 Pin in2
pinMode(in3, OUTPUT); // declare as output for L298 Pin in3
pinMode(in4, OUTPUT); // declare as output for L298 Pin in4
pinMode(enB, OUTPUT); // declare as output for L298 Pin enB

analogWrite(enA, 100); // Write The Duty Cycle 0 to 255 Enable Pin A for Motor1 Speed
analogWrite(enB, 100); // Write The Duty Cycle 0 to 255 Enable Pin B for Motor2 Speed
delay(1000);
}
void loop(){
if((digitalRead(R_S) == 0)&&(digitalRead(L_S) == 0)){forword();}   //if Right Sensor and Left Sensor are at White color then it will call forword function
```

```
if((digitalRead(R_S) == 0)&&(digitalRead(L_S) == 1)){turnRight();} //if Right Sensor is Black and Left Sensor is White then it will call turn Right function

if((digitalRead(R_S) == 1)&&(digitalRead(L_S) == 0)){turnLeft();}  //if Right Sensor is White and Left Sensor is Black then it will call turn Left function

if((digitalRead(R_S) == 1)&&(digitalRead(L_S) == 1)){Stop();} //if Right Sensor and Left Sensor are at Black color then it will call Stop function
}

void forword(){  //forword
digitalWrite(in1, HIGH); //Right Motor forword Pin
digitalWrite(in2, LOW);  //Right Motor backword Pin
digitalWrite(in3, LOW);  //Left Motor backword Pin
digitalWrite(in4, HIGH); //Left Motor forword Pin
}

void turnRight(){ //turnRight
digitalWrite(in1, LOW);  //Right Motor forword Pin
digitalWrite(in2, HIGH); //Right Motor backword Pin
digitalWrite(in3, LOW);  //Left Motor backword Pin
digitalWrite(in4, HIGH); //Left Motor forword Pin
}

void turnLeft(){ //turnLeft
digitalWrite(in1, HIGH); //Right Motor forword Pin
digitalWrite(in2, LOW);  //Right Motor backword Pin
digitalWrite(in3, HIGH); //Left Motor backword Pin
digitalWrite(in4, LOW);  //Left Motor forword Pin
}

void Stop(){ //stop
```

```
digitalWrite(in1, LOW); //Right Motor forword Pin
digitalWrite(in2, LOW); //Right Motor backword Pin
digitalWrite(in3, LOW); //Left Motor backword Pin
digitalWrite(in4, LOW); //Left Motor forword Pin
}
```