int StateVar = 1;

int LOOP6counter = 0;

int x = 0;

int state2counter = 0;

int yetanothercounter = 0;

int rightForwardPin = 5;

int leftForwardPin = 6;

int rightReversePin = 3;

int leftReversePin = 9;

int LineSensorPin = A0;

int RightSensorPin = 11;

int LeftSensorPin = 12;

int BigSensorPin = A3;

int BigSensorValue = 0;

int BigSensorValue2 = 0;

int LeftSensorValue = 0;

int RightSensorValue = 0;

int LineSensorValue = 0;

void setup() {

 pinMode(rightForwardPin, OUTPUT);

 pinMode(leftForwardPin, OUTPUT);

 pinMode(rightReversePin, OUTPUT);

 pinMode(leftReversePin, OUTPUT);

 pinMode(RightSensorPin, INPUT);

 pinMode(LeftSensorPin, INPUT);

 delay(4000);

 Serial.begin(9600);

 }

void loop() {

 switch (StateVar){

 case 1: // spin Right and look at big sensor

 SpinRight();

 BigSensorValue = ReadBigSensor();

 Serial.println("Case 1");

 if (BigSensorValue > 60){

 StateVar = 2;

 }

 break;

 case 2:

 Forward();

 BigSensorValue = ReadBigSensor();

 RightSensorValue = ReadRightSensor();

 LeftSensorValue = ReadLeftSensor();

 state2counter = state2counter +1;

 Serial.println("Case 2");

 if (((LeftSensorValue == 0) || (RightSensorValue == 0))&&(BigSensorValue > 230)){

 StateVar = 5;

 }

 else if(((BigSensorValue < 60) && (LeftSensorValue == 1) && (RightSensorValue == 1))&&(state2counter>100)){

 state2counter =0;

 StateVar = 6;

 }

 else if(((BigSensorValue < 60) && (LeftSensorValue == 1) && (RightSensorValue == 1))&&(state2counter<=100)){

 StateVar = 1;

 }

 break;

 case 3:

 RightCorrect();

 RightSensorValue = ReadRightSensor();

 Serial.println("Case 3");

 if (RightSensorValue == 0) {

 StateVar = 5;

 }

 break;

 case 4:

 LeftCorrect();

 LeftSensorValue = ReadLeftSensor();

 Serial.println("Case 4");

 if (LeftSensorValue == 0) {

 StateVar = 5;

 }

 break;

 case 5:

 Forward();

 RightSensorValue = ReadRightSensor();

 LeftSensorValue = ReadLeftSensor();

 Serial.println("Case 5");

 if ((RightSensorValue == 1) && (LeftSensorValue == 0)) {

 StateVar = 3;

 }

 else if ((RightSensorValue == 0) && (LeftSensorValue == 1)) {

 StateVar = 4;

 }

 break;

 case 6:

 LookLeft();

 BigSensorValue = ReadBigSensor();

 RightSensorValue = ReadRightSensor();

 LeftSensorValue = ReadLeftSensor();

 Serial.println("Case 6");

 if ((BigSensorValue > 60)||(RightSensorValue == 0)||(LeftSensorValue == 0)) {

 LOOP6counter = 0;

 StateVar = 2;

 }

 else if(((LOOP6counter < 1994)&&(BigSensorValue < 60))||(yetanothercounter < 30)){

 LOOP6counter = LOOP6counter +1;

 }

 else{

 yetanothercounter = yetanothercounter + 1;

 LOOP6counter = 0;

 StateVar = 1;

 }

 break;

 default:

 StateVar = 1;

 break;

 }

}

void Forward(){

 digitalWrite(rightReversePin, LOW);

 digitalWrite(leftReversePin, LOW);

 digitalWrite(rightForwardPin, HIGH);

 digitalWrite(leftForwardPin, HIGH);

}

void SpinRight(){

 digitalWrite(leftReversePin, LOW);

 digitalWrite(rightForwardPin, LOW);

 digitalWrite(leftForwardPin, HIGH);

 digitalWrite(rightReversePin, HIGH);

}

void LookLeft(){

 digitalWrite(rightReversePin, LOW);

 digitalWrite(leftForwardPin, LOW);

 digitalWrite(leftReversePin, HIGH);

 digitalWrite(rightForwardPin, HIGH);

}

void RightCorrect(){

 digitalWrite(leftForwardPin, LOW);

 digitalWrite(rightReversePin, LOW);

 digitalWrite(rightForwardPin, HIGH);

 digitalWrite(leftReversePin, HIGH);

}

void LeftCorrect(){

 digitalWrite(leftReversePin, LOW);

 digitalWrite(rightForwardPin, LOW);

 digitalWrite(rightReversePin, HIGH);

 digitalWrite(leftForwardPin, HIGH);

}

int ReadBigSensor(){

 x = 3;

 analogRead(BigSensorPin); //discard 1st measurement

 BigSensorValue = analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin);

 BigSensorValue2 =analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin) + analogRead(BigSensorPin);

 return ((BigSensorValue+BigSensorValue2)/18);

}

int ReadRightSensor(){

 RightSensorValue = digitalRead(RightSensorPin);

 return RightSensorValue;

}

int ReadLeftSensor(){

 LeftSensorValue = digitalRead(LeftSensorPin);

 return LeftSensorValue;

}

//void stopp(){

// digitalWrite(leftReversePin, LOW);

// digitalWrite(rightForwardPin, LOW);

// digitalWrite(rightReversePin, LOW);

// digitalWrite(leftForwardPin, LOW);

//}