#include "GENG1201\_Project.h"

int rightDistance = 0;

int leftDistance = 0;

int count = 0;

bool left = false;

bool right = false;

bool hit;

void turnServoRight(){

  servoControl(0);

}

void turnServoLeft(){

  servoControl(180);

}

void lineFinder(){

  TrackingData\_M = infraRed\_M();

  TrackingData\_R = infraRed\_R();

  TrackingData\_L = infraRed\_L();

  if(function\_xxx(TrackingData\_M, 0, 50)){

    move(Forward, 120);

  }

  if(function\_xxx(TrackingData\_R, 0, 50)){

    move(Right, 60);

  }

  if(function\_xxx(TrackingData\_L, 0, 50)){

    move(Left, 60);

  }

   // line follow after this

  }

void checkObsticle(){

  int distance =0;

  readUltrasonicSensor(get\_Distance);

  while(get\_Distance>55){

    move(Backward, 75);

    readUltrasonicSensor(get\_Distance);

  }

  move(stop\_it,0);

  delay(100);

  move(Backward, 100);

  delay(100);

}

void setup() {

Init();

Serial.begin(9600);

servoControl (90);

 readUltrasonicSensor (get\_Distance);

 while  (get\_Distance >=25) {

  readUltrasonicSensor (get\_Distance);

  move (Forward, 175);

 }

 if (get\_Distance <25) {

    move (stop\_it, 0);

    servoControl (0);

    delay(100);

    readUltrasonicSensor (get\_Distance);

    rightDistance = get\_Distance;

    servoControl(180);

    delay(100);

    readUltrasonicSensor (get\_Distance);

    leftDistance = get\_Distance;

    if(leftDistance < rightDistance){

      turnServoRight();

      right = true;

    }

    else if(rightDistance < leftDistance){

      turnServoLeft();

      left = true;

   }

   checkObsticle();

   if(left == true){

    while(left == true){   // its stuck here , might need to make another function called obsticle hit. Need to set the values during class

     move(Left,100);

     delay(400);

     move(Forward, 115);

     delay(1300);

     servoControl(90);

     move(stop\_it, 0);

     left = false;

   }

   }

   else if(right == true){

     while(right== true){

     move(Right, 100);

     delay(400);

     move(Forward, 115);

     delay(1300);

     servoControl(90);

     move(stop\_it, 0);

     right = false;

   }

   }

 }

  // Correct the values here

   count++;

   move(stop\_it, 0);

   delay(500);  // Obsticle avoidance done here

   if(count == 1){

     servoControl(180);

     readUltrasonicSensor(get\_Distance);

     if(function\_xxx(get\_Distance, 0, 25)){

       move(Right,113);

       delay(600);

       move(stop\_it,0);

     }

     else{

       move(Left, 113);

       delay(600);

       move(stop\_it,0);

     }

   }

     count++;

     // Line finder should be done here.

     // Correct the values of the line finder

     //Line follower should begian here now

     while(count == 2){

       TrackingData\_M = infraRed\_M();

       TrackingData\_R = infraRed\_R();

       TrackingData\_L = infraRed\_L();

       if (function\_xxx(TrackingData\_M, 0, 50)){

        move(Forward, 120);

      }

      else {

      if  (TrackingData\_R<= 100) {

        while(TrackingData\_M > 100){

        TrackingData\_M = infraRed\_M();

        TrackingData\_R = infraRed\_R();

        TrackingData\_L = infraRed\_L();

        move(Right, 75);

        }

        }

        else{

        if (TrackingData\_L<= 100){

          while(TrackingData\_M > 100){

          TrackingData\_M = infraRed\_M();

          TrackingData\_R = infraRed\_R();

          TrackingData\_L = infraRed\_L();

          move(Left, 75);

          }

        }

        else{

        if(TrackingData\_M >= 600){

          if(TrackingData\_L >= 600){

            if(TrackingData\_R >= 600){

              move(stop\_it,0);

            }

          }

        }

        }

        }

     }

     }

     }

       // best i can do for my coding Line follower done however i need to make a timer to change the line follwer into a faster one soo still need to figure that out

void loop () {

}