int in1,in2,in3,in4;

int x\_axis;

int y\_axis,count=0;

int encoder\_x\_axis,angle\_x\_left=0,angle\_x\_right=0,sum\_x\_angle=0;

int encoder\_y\_axis,angle\_y\_left=0,angle\_y\_right=0,sum\_y\_angle=0;

const int encoderIn1 = 8;

const int encoderIn2 = 8;

boolean postion\_x = HIGH;

boolean postion\_y = HIGH;

void setup() {

Serial.begin(9600);

pinMode(encoderIn1, INPUT);

pinMode(encoderIn2, INPUT);

}

Serial.println("...............................");

void loop() {

move\_forward();

turn\_left();

move\_forward();

turn\_left();

move\_forward();

delay(50000000000000000);

}

void direction\_axis(){

if( postion\_x ){

Serial.println("postive x-axis");

}

else {

Serial.println("negative x-axis");

}

if( postion\_y ){

Serial.println("postive y-axis");

}

else {

Serial.println("negative y-axis");

}

}

void postion(){

encoder\_x\_axis=digitalRead(encoderIn1);

encoder\_y\_axis=digitalRead(encoderIn2);

if (encoder\_x\_axis == HIGH) {

if( postion\_x ){

x\_axis++;

}

else if(postion\_x){

x\_axis--;

}

}

if (encoder\_y\_axis == HIGH) {

if( postion\_y){

y\_axis++;

}

else if(postion\_y){

y\_axis--;

}

}

}

void move\_forward(){

digitalWrite(in1, HIGH);

digitalWrite(in2, LOW);

digitalWrite(in3, HIGH);

digitalWrite(in4, LOW);

postion();

direction\_axis();

}

void move\_backward(){

digitalWrite(in1, LOW);

digitalWrite(in2, HIGH);

digitalWrite(in3, LOW);

digitalWrite(in4, HIGH);

}

void turn\_right(){

digitalWrite(in1, LOW);

digitalWrite(in2, LOW);

digitalWrite(in3, HIGH);

digitalWrite(in4, LOW);

angle\_x\_right= angle\_x\_right + -90;

sum\_x\_angle = angle\_x\_right + angle\_x\_left;

if(sum\_x\_angle == 0){

angle\_x\_right = 0;

angle\_x\_left = 0;

}

else if(angle\_x\_right == -180){

postion\_y = !postion\_y;

angle\_x\_right = 0;

}

angle\_y\_right=angle\_y\_right-90;

sum\_y\_angle=angle\_y\_right+angle\_y\_left;

if(sum\_y\_angle == 0){

angle\_y\_right=0;

angle\_y\_left=0;

}

else if(angle\_y\_right == -180){

postion\_x=!postion\_x;

angle\_y\_right=0;

}

postion();

direction\_axis();

}

void turn\_left(){

digitalWrite(in1, HIGH);

digitalWrite(in2, LOW);

digitalWrite(in3, LOW);

digitalWrite(in4, LOW);

if(count>0){

angle\_x\_left= angle\_x\_left + 90;

sum\_x\_angle = angle\_x\_right + angle\_x\_left;

if(sum\_x\_angle == 0){

angle\_x\_right = 0;

angle\_x\_left = 0;

}

else if(angle\_x\_left == 180){

postion\_y = !postion\_y;

angle\_x\_left=0;

}

}

angle\_y\_left=angle\_y\_left+90;

sum\_y\_angle=angle\_y\_right+angle\_y\_left;

if(sum\_y\_angle == 0){

angle\_y\_right=0;

angle\_y\_left=0;

}

else if(angle\_y\_left == 180){

postion\_x=!postion\_x;

angle\_y\_left=0;

}

count++;

postion();

direction\_axis();

}