#include <Servo.h>

Servo motor\_1;

Servo motor\_2;

Servo motor\_3;

Servo motor\_4;

Servo motor\_5;

#define enA 5  //Enable1 L298 Pin enA

#define in1 A3 //Motor1  L298 Pin in1

#define in2 A2 //Motor1  L298 Pin in1

#define in3 A1 //Motor2  L298 Pin in1

#define in4 A0 //Motor2  L298 Pin in1

#define enB 5  //Enable2 L298 Pin enB

int servo1 = 90;

int servo2 = 110;

int servo3 = 40;

int servo4 = 50;

int servo5 = 90;

int bt\_data;

int Speed = 130;

void setup(){

Serial.begin(9600); // initialize serial communication at 9600 bits per second:

motor\_1.attach(8);

motor\_2.attach(9);

motor\_3.attach(10);

motor\_4.attach(11);

motor\_5.attach(12);

motor\_1.write(servo1);

motor\_2.write(servo2);

motor\_3.write(servo3);

motor\_4.write(servo4);

motor\_5.write(servo5);

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

delay(1000);

}

void loop(){

//if some date is sent, reads it and saves in state

if(Serial.available() > 0){

bt\_data = Serial.read();

Serial.println(bt\_data);

if(bt\_data > 20){Speed = bt\_data;}

}

analogWrite(enA, Speed); // Write The Duty Cycle 0 to 255 Enable Pin A for Motor1 Speed

analogWrite(enB, Speed); // Write The Duty Cycle 0 to 255 Enable Pin B for Motor2 Speed

     if(bt\_data == 1){forword(); }  // if the bt\_data is '1' the DC motor will go forward

else if(bt\_data == 2){backword();}  // if the bt\_data is '2' the motor will Reverse

else if(bt\_data == 3){turnLeft();}  // if the bt\_data is '3' the motor will turn left

else if(bt\_data == 4){turnRight();} // if the bt\_data is '4' the motor will turn right

else if(bt\_data == 5){Stop(); }     // if the bt\_data '5' the motor will Stop

else if(bt\_data == 6){turnLeft();  delay(400);  bt\_data = 5;}

else if(bt\_data == 7){turnRight(); delay(400);  bt\_data = 5;}

else if (bt\_data == 8){

if(servo1<180){servo1 = servo1+1;}

motor\_1.write(servo1);

}

else if (bt\_data == 9){

if(servo1>0){servo1 = servo1-1;}

motor\_1.write(servo1);

}

else if (bt\_data == 10){

if(servo2>0){servo2 = servo2-1;}

motor\_2.write(servo2);

}

else if (bt\_data == 11){

if(servo2<180){servo2 = servo2+1;}

motor\_2.write(servo2);

}

else if(bt\_data == 12){

if(servo3>0){servo3 = servo3-1;}

motor\_3.write(servo3);

}

else if (bt\_data == 13){

if(servo3<180){servo3 = servo3+1;}

motor\_3.write(servo3);

}

else if (bt\_data == 14){

if(servo4<180){servo4 = servo4+1;}

motor\_4.write(servo4);

}

else if(bt\_data == 15){

if(servo4>0){servo4 = servo4-1;}

motor\_4.write(servo4);

}

else if (bt\_data == 16){

if(servo5>90){servo5 = servo5-1;}

motor\_5.write(servo5);

}

else if (bt\_data == 17){

if(servo5<150){servo5 = servo5+1;}

motor\_5.write(servo5);

}

delay(30);

}

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 backword(){ //backword

digitalWrite(in1, LOW);  //Right Motor forword Pin

digitalWrite(in2, HIGH); //Right Motor backword Pin

digitalWrite(in3, HIGH); //Left Motor backword Pin

digitalWrite(in4, LOW);  //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

}