#include <Servo.h>

#define lim\_sw\_pin 12

#define step\_dir\_pin 10

#define step\_step\_pin 11

int step\_count = 0;

Servo hold;

Servo hand;

void setup() {

Serial.begin(9600);

Serial.println("Ready");

pinMode(lim\_sw\_pin, INPUT);

pinMode(step\_step\_pin, OUTPUT);

pinMode(step\_dir\_pin, OUTPUT);

pinMode(6, OUTPUT);

pinMode(7, OUTPUT);

pinMode(3, OUTPUT);

// digitalWrite(7, HIGH);

hold.attach(9);

hand.attach(8);

hold.write(180);

hand.write(180);

servo\_pos(150);

beep(2000, 500, 100);

sethome () ;

beep(2637, 150, 100);

beep(2637, 150, 100);

beep(2637, 150, 250);

beep(2093, 150, 100);

beep(2637, 150, 200);

beep(3136, 150, 500);

beep(1568, 150, 100);

}

void loop() {

if (Serial.available()) {

char data = Serial.read();

if (data == 'H')sethome () ;

else if (data == 'a')right () ;

else if (data == 'b')left () ;

}

int val = analogRead(A3) - 520;

if (val > 200)right ();

else if (val < -200)left ();

}

void sethome () {

digitalWrite(step\_dir\_pin, HIGH);

while (!digitalRead(lim\_sw\_pin)) {

digitalWrite(step\_step\_pin, HIGH); // turn the LED on (HIGH is the voltage level)

delay(1); // wait for a second

digitalWrite(step\_step\_pin, LOW); // turn the LED off by making the voltage LOW

delay(1);

}

step\_count = 0;

}

void left() {

beep(2093, 150, 100);

beep(2637, 150, 200);

beep(3136, 150, 0);

step\_drive(2500);

servo\_pos( 60);

//m\_r();

step\_drive(1300);

m\_l();

delay(300);

servo\_pos(90);

m\_l();

delay(1300);

//ao();

sethome ();

servo\_pos(60);

delay(200);

servo\_pos(150);

m\_l();

delay(1000);

ao();

sethome ();

}

void right() {

beep(2093, 150, 100);

beep(2637, 150, 200);

beep(3136, 150, 0);

sethome ();

servo\_pos( 60);

//m\_r();

step\_drive(1300);

m\_r();

delay(300);

servo\_pos(90);

m\_r();

delay(1300);

//ao();

step\_drive(2500);

servo\_pos(60);

delay(200);

servo\_pos(150);

m\_r();

delay(1000);

ao();

sethome ();

}