

stepper_control \$

```
1 #include <AccelStepper.h>
2
3 volatile int step_number1;
4 volatile int step_number2;
5
6 AccelStepper stepper1(1, 3, 4);
7 AccelStepper stepper2(1, 6, 7);
8
9 // Position 1
10 void position_1() {
11     Serial.println("Going to Position 1");
12     step_number1 = 50; // Motor 2 moves away when positive
13     step_number2 = 50; // Motor 1 moves closer when positive
14     stepper1.moveTo(step_number1);
15     stepper2.moveTo(step_number2);
16     stepper1.setSpeed(50); // Motor 1 speed
17     stepper2.setSpeed(50); // Motor 2 speed
18     digitalWrite(2, LOW);
19     digitalWrite(5, LOW);
20 while (true) {
21     if (stepper1.targetPosition() != stepper1.currentPosition()) {
22         stepper1.runSpeedToPosition();
23     } else {
24         digitalWrite(2, HIGH);
25     }
26     if (stepper2.targetPosition() != stepper2.currentPosition()) {
27         stepper2.runSpeedToPosition();
28     } else {
29         digitalWrite(5, HIGH);
30     }
31     if (stepper1.targetPosition() == stepper1.currentPosition() && stepper2.targetPosition() == stepper2.currentPosition()) {
32         digitalWrite(2, HIGH);
33         digitalWrite(5, HIGH);
34         break;
35     }
36 }
37 Serial.println(stepper1.currentPosition());
38 Serial.println(stepper2.currentPosition());
39 Serial.println("Reached Position 1");
40 }
41
42 // Position 2
43 void position_2() {
44     Serial.println("Going to Position 2");
45     step_number1 = 100; // Move away
46     step_number2 = 150; // Move closer
47     stepper1.moveTo(step_number1);
48     stepper2.moveTo(step_number2);
49     stepper1.setSpeed(50); // Motor 1 speed
50     stepper2.setSpeed(50); // Motor 2 speed
51     digitalWrite(2, LOW);
52     digitalWrite(5, LOW);
53 while (true) {
54     if (stepper1.targetPosition() != stepper1.currentPosition()) {
55         stepper1.runSpeedToPosition();
56     } else {
57         digitalWrite(2, HIGH);
58     }
59     if (stepper2.targetPosition() != stepper2.currentPosition()) {
60         stepper2.runSpeedToPosition();
61     } else {
62         digitalWrite(5, HIGH);
63     }
64     if (stepper1.targetPosition() == stepper1.currentPosition() && stepper2.targetPosition() == stepper2.currentPosition()) {
65         digitalWrite(2, HIGH);
66         digitalWrite(5, HIGH);
67         break;
68     }
69 }
70 Serial.println(stepper1.currentPosition());
71 Serial.println(stepper2.currentPosition());
72 Serial.println("Reached Position 2");
73 }
74
75 void my_delay_s(int x) {
76     for (int i = (1); i <= (x); i = i + (1)) {
77         delay(1000);
78     }
79 }
80
81 // Position 3
82 void position_3() {
83     Serial.println("Going to Position 3");
84     step_number1 = 0;
85     step_number2 = 0;
86     stepper1.moveTo(step_number1);
87     stepper2.moveTo(step_number2);
88     stepper1.setSpeed(50);
89     stepper2.setSpeed(50);
90     digitalWrite(2, LOW);
91     digitalWrite(5, LOW);
92 while (true) {
93     if (stepper1.targetPosition() != stepper1.currentPosition()) {
94         stepper1.runSpeedToPosition();
95     } else {
96         digitalWrite(2, HIGH);
97     }
98     if (stepper2.targetPosition() != stepper2.currentPosition()) {
99         stepper2.runSpeedToPosition();
100     } else {
101         digitalWrite(5, HIGH);
102     }
103     if (stepper1.targetPosition() == stepper1.currentPosition() && stepper2.targetPosition() == stepper2.currentPosition()) {
104         digitalWrite(2, HIGH);
105         digitalWrite(5, HIGH);
106         break;
107     }
108 }
109 Serial.println(stepper1.currentPosition());
110 Serial.println(stepper2.currentPosition());
111 Serial.println("Reached Position 3");
112 }
113
114 void setup() {
115     Serial.begin(9600);
116     step_number1 = 0;
117     step_number2 = 0;
118     stepper1.setMaxSpeed(100); // Set maximum speed to a lower value
119     stepper2.setMaxSpeed(100); // Set maximum speed to a lower value
120     stepper1.setSpeed(50);
121     stepper2.setSpeed(50);
122     pinMode(2, OUTPUT);
123     pinMode(5, OUTPUT);
124     digitalWrite(2, HIGH);
125     digitalWrite(5, HIGH);
126     my_delay_s(5);
127     Serial.println("Starting");
128     Serial.println("Current position is the starting point");
129 }
130
131 void loop() {
132     position_1();
133     my_delay_s(5); // Stay for 5 seconds
134     position_2();
135     my_delay_s(5); // Stay for 5 seconds
136     position_3();
137     my_delay_s(5); // Stay for 5 seconds
138 }
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