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#include <Servo.h> // add the servo library
Servo servo1; // name the servo motors however you like
Servo servo2;
Servo servo3;
Servo servo4;

// create servo object to control a servo
int pos1 = 0; //variable to store the starting servo position
int pos2 = 180;
int pos3 = 180;
int pos4 = 0;
int count = 0; // variable to store the degree the motor is at

void setup() {
 // based on which PWM pin the servo motor is wired to, write the number inside the
attach
 servo1.attach(10); // attaches the servo on pin 10 to servo object
 servo2.attach(11);
 servo3.attach(12);
 servo4.attach(9);
}

void loop() {
 if (count<1){
   //servo motor 1
   stop();
   delay(1000);
   turnForwards1();
   stop();
   delay(1000);
   turnBack1();
   stop();
   delay(2000);
  // servo motor 2
   turnForwards2();
   stop();
   delay(1000);
   turnBack2();
   stop();
   delay(2000);
   //servo motor 3
   turnForwards3();
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   stop();
   delay(1000);
   turnBack3();
   stop();
   delay(2000);
  //servo motor 4
   turnForwards4();
   stop();
   delay(1000);
   turnBack4();
   stop();
   delay(2000);
   count = count + 1;
 }
 else {
   stop();
 }
 }
// the following turn forwards functions turn the motor from their initial position
void turnForwards1(){ // this function turns servo motor 1 from 0 to 180 degrees
 for (pos1=0;pos1<=180;) {
   pos1 = pos1 + 20;
   servo1.write(pos1);
   delay(10);
 }
}
void turnForwards2(){
 for (pos2=180;pos2>=0;) {
   pos2 = pos2 - 20;
   servo2.write(pos2);
   delay(15);
 }
}
void turnForwards3(){
 for (pos3=180;pos3>=0;) {
   pos3 = pos3 - 20;
   servo3.write(pos3);
   delay(15);
 }
}

void turnForwards4(){
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 for (pos4=0;pos4<=180;) {
   pos4 = pos4 + 20;
   servo4.write(pos4);
   delay(15);
 }
}
void stop(){ // this function keeps the servo motors at the position they are
 pos1 = pos1;
 pos2 = pos2;
 pos3 = pos3;
 pos4 = pos4;
 servo1.write(pos1);
 servo2.write(pos2);
 servo3.write(pos3);
 servo4.write(pos4);
}

// the following functions turn the servo motors from their extended position back to
their original positions
void turnBack1(){
 for (pos1=180;pos1>=0;) {
   pos1 = pos1 - 20;
   servo1.write(pos1);
   delay(15);
 }
}
void turnBack2(){
 for (pos2=0;pos2<=180;) {
   pos2 = pos2 + 20;
   servo2.write(pos2);
   delay(15);
 }
}
void turnBack3(){
 for (pos3=0;pos3<=180;) {
   pos3 = pos3 + 20;
   servo3.write(pos3);
   delay(15);
 }
}
void turnBack4(){
 for (pos4=180;pos4>=0;) {
```

```
    pos4 = pos4 - 20;
    servo4.write(pos4);
    delay(15);
  }
}
```