```
//day 1
//I will use this program to program each motion of the hexapod, each in a function...
/* leg 1 composed of servo1 and servo2, using variables a and b
 *  leg 2 composed of servo3 and servo4, using variables c and d
 *  leg 3 composed of servo5 and servo6, using variables e and f
 *  leg 4 composed of servo7 and servo8, using variables g and h
 *  leg 5 composed of servo9 and servo10, using variables i and j
 *  leg 6 composed of servo11 and servo12, using variables k and l
 *  WE ARE TRYING GENERAL ACCURACY OF MOVEMENTS (EXACT AMOUNT OF
DEGREES FOR EACH SERVO)
 */

#include <Servo.h>

//initialize each servo on the number its labelled: odds control horizontal movements, even
control vertical movements
Servo servo1;
Servo servo2;
Servo servo3;
Servo servo4;
Servo servo5;
Servo servo6;
Servo servo7;
Servo servo8;
Servo servo9;
Servo servo10;
Servo servo11;
Servo servo12;

int a,b,c,d,e,f,g,h,i,j,k,l,z;

void setup() {
  //set each servo to pin its at, and start it at specific initial value: all vertical will be standing
  servo1.attach(0);
  servo1.write(120);
  servo2.attach(1);
  servo2.write(100);
  servo3.attach(2);
  servo3.write(90);
  servo4.attach(3);
  servo4.write(100);
  servo5.attach(4);
  servo5.write(90);
```

```
  servo6.attach(5);
  servo6.write(145);
  servo7.attach(14);
  servo7.write(90);
  servo8.attach(15);
  servo8.write(67);
  servo9.attach(16);
  servo9.write(90);
  servo10.attach(17);
  servo10.write(96);
  servo11.attach(18);
  servo11.write(90);
  servo12.attach(19);
  servo12.write(59);

}

void loop() {
  //run function 1
  function1();

}

void function1(){
  //make legs 1,3,5 rise, go foward, and go down

  //to make servos 2,6,10 rise
  for (b=100, f=145, k=96, z=0; z<30; b--, f--, k++, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(k);
  }
  //to make servos 1,5,9 move back
  for (a=120, e=90, i=90, z=0; z<60; a++, e++, i++, z++)
  {
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
  }
  //to make servos 2,6,10 lower
  for (b=70, f=115, k=126, z=0; z<30; b++, f++, k--, z++)
  {
```

```
    servo2.write(b);
    servo6.write(f);
    servo10.write(k);
  }
}
```

```
//day 2
//I will use this program to program each motion of the hexapod, each in a function...
/* leg 1 composed of servo1 and servo2, using variables a and b
 *  leg 2 composed of servo3 and servo4, using variables c and d
 *  leg 3 composed of servo5 and servo6, using variables e and f
 *  leg 4 composed of servo7 and servo8, using variables g and h
 *  leg 5 composed of servo9 and servo10, using variables i and j
 *  leg 6 composed of servo11 and servo12, using variables k and l
 *  WE ARE TRYING GENERAL ACCURACY OF MOVEMENTS (EXACT AMOUNT OF DEGREES FOR EACH SERVO)
 */

#include <Servo.h>

//initialize each servo on the number its labelled: odds control horizontal movements, even control vertical movements
Servo servo1;
Servo servo2;
Servo servo3;
Servo servo4;
Servo servo5;
Servo servo6;
Servo servo7;
Servo servo8;
Servo servo9;
Servo servo10;
Servo servo11;
Servo servo12;

int a,b,c,d,e,f,g,h,i,j,k,l,z;

void setup() {
  //set each servo to pin its at, and start it at specific initial value: all vertical will be standing
  servo1.attach(0);
  servo1.write(120);
  servo2.attach(1);
  servo2.write(100);
  servo3.attach(2);
  servo3.write(90);
  servo4.attach(3);
  servo4.write(100);
  servo5.attach(4);
  servo5.write(90);
```

```
  servo6.attach(5);
  servo6.write(145);
  servo7.attach(14);
  servo7.write(90);
  servo8.attach(15);
  servo8.write(67);
  servo9.attach(16);
  servo9.write(90);
  servo10.attach(17);
  servo10.write(96);
  servo11.attach(18);
  servo11.write(90);
  servo12.attach(19);
  servo12.write(59);

}

void loop() {

  function1();
  //function2();
  //function3();

}

void function1(){
  //make legs 2,4,6 push back while making legs 1,3,5 rise, then make legs 1,3,5 go foward, and
go down

  //to make servos 2,6,10 rise, and make servos 3,7,11 push back
  for (b=100, f=155, j=110,    c=150, g=150, k=150, z=0; z<60; b--, f--, j--,    c--, g--, k--, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);

    servo3.write(c);
    servo7.write(g);
    servo11.write(k);
    delay(30);
  }
  //to make servos 1,5,9 go foward
  for (a=120, e=130, i=150, z=0; z<60; a++, e--, i--, z++)
```

```
  {
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(30);
  }
  //to make servos 2,6,10 lower
  for (b=40, f=85, j=50, z=0; z<60; b++, f++, j++, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);
    delay(30);
  }
}

void function2()
{
  //make legs 1,3,5 push back while lifting legs 2,4,6 up

  for (a=180, e=70, i=150,   d=20, h=35, l=10, z=0; z<60; a--, e++, i--,     d++, h++, l++,z++)
  {
    //legs 2,4,6 lifting up
    servo4.write(d);
    servo8.write(h);
    servo12.write(l);

    //legs 1,3,5 pushing back
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(30);
  }
}

void function3()
{
  //make legs 2,4,6 move foward, and lower

  //make legs move foward
  for (c=90, g=90, k=90, z=0; z<60; c++, g++, k++, z++)
  {
    servo3.write(c);
```

```
    servo7.write(g);
    servo11.write(k);
    delay(30);
  }

  //make legs lower
  for (d=80, h=95, l=70, z=0; z<60; d--, h--, l--, z++)
  {
    servo4.write(d);
    servo8.write(h);
    servo12.write(l);
    delay(30);
  }


}
```

```
//day3
//I will use this program to program each motion of the hexapod, each in a function...
/* leg 1 composed of servo1 and servo2, using variables a and b
 *  leg 2 composed of servo3 and servo4, using variables c and d
 *  leg 3 composed of servo5 and servo6, using variables e and f
 *  leg 4 composed of servo7 and servo8, using variables g and h
 *  leg 5 composed of servo9 and servo10, using variables i and j
 *  leg 6 composed of servo11 and servo12, using variables k and l
 *  WE ARE TRYING GENERAL ACCURACY OF MOVEMENTS (EXACT AMOUNT OF
DEGREES FOR EACH SERVO)
 */

#include <Servo.h>

//initialize each servo on the number its labelled: odds control horizontal movements, even
control vertical movements
Servo servo1;
Servo servo2;
Servo servo3;
Servo servo4;
Servo servo5;
Servo servo6;
Servo servo7;
Servo servo8;
Servo servo9;
Servo servo10;
Servo servo11;
Servo servo12;

int a,b,c,d,e,f,g,h,i,j,k,l,z;

void setup() {
  //set each servo to pin its at, and start it at specific initial value: all vertical will be standing
 /* servo1.attach(0);
  servo1.write(120);
  servo2.attach(1);
  servo2.write(100);
  servo3.attach(2);
  servo3.write(90);
  servo4.attach(3);
  servo4.write(100);
  servo5.attach(4);
  servo5.write(90);
```

```
  servo6.attach(5);
  servo6.write(145);
  servo7.attach(14);
  servo7.write(90);
  servo8.attach(15);
  servo8.write(67); */
  servo9.attach(16);
  servo9.write(90);
 /* servo10.attach(17);
  servo10.write(96);
  servo11.attach(18);
  servo11.write(90);
  servo12.attach(19);
  servo12.write(59); */

}

void loop() {

  //function1();
  function2();
  //function3();

}

void function1(){
  //make legs 2,4,6 push back while making legs 1,3,5 rise, then make legs 1,3,5 go foward, and
go down

  //to make servos 2,6,10 rise, and make servos 3,7,11 push back
  for (b=100, f=155, j=110,    c=150, g=150, k=150, z=0; z<60; b--, f--, j--,    c--, g--, k--, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);

    servo3.write(c);
    servo7.write(g);
    servo11.write(k);
    delay(30);
  }
  //to make servos 1,5,9 go foward
  for (a=120, e=130, i=150, z=0; z<60; a++, e--, i--, z++)
```

```
  {
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(30);
  }
  //to make servos 2,6,10 lower
  for (b=40, f=85, j=50, z=0; z<60; b++, f++, j++, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);
    delay(30);
  }
}

void function2()
{
  //make legs 1,3,5 push back while lifting legs 2,4,6 up

  for (a=180, e=70, i=90,   d=100, h=75, l=128, z=0; z<60; a--, e++, i++,     d--, h--, l--, z++)
  {
    //legs 2,4,6 lifting up
    //servo4.write(d);
    //servo8.write(h);
   // servo12.write(l);

    //legs 1,3,5 pushing back
    //servo1.write(a);
    //servo5.write(e);
    servo9.write(i);
    delay(30);
  }
}

void function3()
{
  //make legs 2,4,6 move foward, and lower

  //make legs move foward
  for (c=90, g=90, k=90, z=0; z<60; c++, g++, k++, z++)
  {
    servo3.write(c);
```

```
    servo7.write(g);
    servo11.write(k);
    delay(30);
  }

  //make legs lower
  for (d=40, h=15, l=68, z=0; z<60; d++, h--, l++, z++)
  {
    servo4.write(d);
    servo8.write(h);
    servo12.write(l);
    delay(30);
  }


}
```

```
//day 4
//I will use this program to program each motion of the hexapod, each in a function...
/* leg 1 composed of servo1 and servo2, using variables a and b
 *  leg 2 composed of servo3 and servo4, using variables c and d
 *  leg 3 composed of servo5 and servo6, using variables e and f
 *  leg 4 composed of servo7 and servo8, using variables g and h
 *  leg 5 composed of servo9 and servo10, using variables i and j
 *  leg 6 composed of servo11 and servo12, using variables k and l
 *  WE ARE TRYING GENERAL ACCURACY OF MOVEMENTS (EXACT AMOUNT OF DEGREES FOR EACH SERVO)
 */

#include <Servo.h>

//initialize each servo on the number its labelled: odds control horizontal movements, even control vertical movements
Servo servo1;
Servo servo2;
Servo servo3;
Servo servo4;
Servo servo5;
Servo servo6;
Servo servo7;
Servo servo8;
Servo servo9;
Servo servo10;
Servo servo11;
Servo servo12;

int a,b,c,d,e,f,g,h,i,j,k,l,z;

void setup() {
  //set each servo to pin its at, and start it at specific initial value: all vertical will be standing
  servo1.attach(0);
  servo1.write(120);
  servo2.attach(1);
  servo2.write(100);
  servo3.attach(2);
  servo3.write(90);
  servo4.attach(3);
  servo4.write(100);
  servo5.attach(4);
  servo5.write(90);
```

```
  servo6.attach(5);
  servo6.write(145);
  servo7.attach(14);
  servo7.write(90);
  servo8.attach(15);
  servo8.write(67);
  servo9.attach(16);
  servo9.write(90);
  servo10.attach(17);
  servo10.write(96);
  servo11.attach(18);
  servo11.write(90);
  servo12.attach(19);
  servo12.write(59);

}

void loop() {

  function1();
  function2();
  function3();

}

void function1(){
  //make legs 2,4,6 push back while making legs 1,3,5 rise, then make legs 1,3,5 go foward, and
go down

  //to make servos 2,6,10 rise, and make servos 3,7,11 push back
  for (b=100, f=155, j=110,    c=150, g=30, k=150, z=0; z<60; b--, f--, j--,    c--, g++, k--, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);

    servo3.write(c);
    servo7.write(g);
    servo11.write(k);
    delay(30);
  }
  //to make servos 1,5,9 go foward
  for (a=120, e=90, i=90, z=0; z<60; a++, e--, i--, z++)
```

```
  {
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(30);
  }
  //to make servos 2,6,10 lower
  for (b=40, f=85, j=50, z=0; z<60; b++, f++, j++, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);
    delay(30);
  }
}

void function2()
{
  //make legs 1,3,5 push back while lifting legs 2,4,6 up

  for (a=180, e=30, i=30,   d=100, h=75, l=128, z=0; z<60; a--, e++, i++,     d--, h--, l--, z++)
  {
    //legs 2,4,6 lifting up
    servo4.write(d);
    servo8.write(h);
    servo12.write(l);

    //legs 1,3,5 pushing back
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(30);
  }
}

void function3()
{
  //make legs 2,4,6 move foward, and lower

  //make legs move foward
  for (c=90, g=90, k=90, z=0; z<60; c++, g--, k++, z++)
  {
    servo3.write(c);
```

```
    servo7.write(g);
    servo11.write(k);
    delay(30);
  }

  //make legs lower
  for (d=40, h=15, l=68, z=0; z<60; d++, h++, l++, z++)
  {
    //servo4.write(d);
    //servo8.write(h);
    servo12.write(l);
    delay(30);
  }


}
```

```
//day 5
//I will use this program to program each motion of the hexapod, each in a function...
/* leg 1 composed of servo1 and servo2, using variables a and b
 *  leg 2 composed of servo3 and servo4, using variables c and d
 *  leg 3 composed of servo5 and servo6, using variables e and f
 *  leg 4 composed of servo7 and servo8, using variables g and h
 *  leg 5 composed of servo9 and servo10, using variables i and j
 *  leg 6 composed of servo11 and servo12, using variables k and l
 *  WE ARE TRYING GENERAL ACCURACY OF MOVEMENTS (EXACT AMOUNT OF DEGREES FOR EACH SERVO)
 */

#include <Servo.h>

//initialize each servo on the number its labelled: odds control horizontal movements, even control vertical movements
Servo servo1;
Servo servo2;
Servo servo3;
Servo servo4;
Servo servo5;
Servo servo6;
Servo servo7;
Servo servo8;
Servo servo9;
Servo servo10;
Servo servo11;
Servo servo12;

int a,b,c,d,e,f,g,h,i,j,k,l,z;
int pause = 15;

void setup() {
  //set each servo to pin its at, and start it at specific initial value: all vertical will be standing
  servo1.attach(0);
  servo1.write(120);
  servo2.attach(1);
  servo2.write(100);
  servo3.attach(2);
  servo3.write(100);
  servo4.attach(3);
  servo4.write(100);
  servo5.attach(4);
```

```
  servo5.write(90);
  servo6.attach(5);
  servo6.write(145);
  servo7.attach(14);
  servo7.write(90);
  servo8.attach(15);
  servo8.write(67);
  servo9.attach(16);
  servo9.write(90);
  servo10.attach(17);
  servo10.write(96);
  servo11.attach(18);
  servo11.write(90);
  servo12.attach(19);
  servo12.write(59);
  delay(10000);

}

void loop() {

  function1();
  function2();
  function3();

}

void function1(){
  //make legs 2,4,6 push back while making legs 1,3,5 rise, then make legs 1,3,5 go foward, and
go down

  //to make servos 2,6,10 rise, and make servos 3,7,11 push back
  for (b=100, f=155, j=110,    c=160, g=30, k=150, z=0; z<60; b--, f--, j--,    c--, g++, k--, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);

    servo3.write(c);
    servo7.write(g);
    servo11.write(k);
    delay(pause);
  }
```

```
  //to make servos 1,5,9 go foward
  for (a=120, e=90, i=90, z=0; z<60; a++, e--, i--, z++)
  {
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(pause);
  }
  //to make servos 2,6,10 lower
  for (b=40, f=85, j=50, z=0; z<60; b++, f++, j++, z++)
  {
    servo2.write(b);
    servo6.write(f);
    servo10.write(j);
    delay(pause);
  }
}

void function2()
{
  //make legs 1,3,5 push back while lifting legs 2,4,6 up

  for (a=180, e=30, i=30,   d=100, h=75, l=128, z=0; z<60; a--, e++, i++,     d--, h--, l--, z++)
  {
    //legs 2,4,6 lifting up
    servo4.write(d);
    servo8.write(h);
    servo12.write(l);

    //legs 1,3,5 pushing back
    servo1.write(a);
    servo5.write(e);
    servo9.write(i);
    delay(pause);
  }
}

void function3()
{
  //make legs 2,4,6 move foward, and lower

  //make legs move foward
  for (c=100, g=90, k=90, z=0; z<60; c++, g--, k++, z++)
```

```
  {
    servo3.write(c);
    servo7.write(g);
    servo11.write(k);
    delay(pause);
  }

  //make legs lower
  for (d=40, h=15, l=68, z=0; z<60; d++, h++, l++, z++)
  {
    servo4.write(d);
    servo8.write(h);
    servo12.write(l);
    delay(pause);
  }


}
```