Controlling a Servo Motor

In order to control a servo, you need the following parts in your code:

Before Setup:

```
#include <Servo.h> //Basic Arduino library for controlling servos
Servo myServo; //Initializes a servo object with the name myServo
```

Setup:

```
void setup() {
  myServo.attach(pinNumber); //Attaches the servo to chosen pinNumber
}
```

After this, you can use e.g the following methods:

```
myServo.write(angle); //Moves the Servo to chosen angle (0-180)
myServo.read();       //Returns the last angle given to the servo
myServo.detach();     //Detaches the servo from its pin
```

To find out more about coding with servos, visit Arduino's servo reference page.

Good to know:

- Most servos can operate between 0-180 degrees, verify from the servo's datasheet before use to prevent damage.
- The Servo.h library and SoftwareSerial.h library conflict with each other. Listening to the serial while a servo is attached can cause interference in servo functions.
- The Servo.h library supports 12 servos on most boards.
- On most boards, using the Servo.h library disables PWM functionality on pins 9 and 10.

Examples:

```
//Reading the value of a potentiometer and using it to turn a servo

#include <Servo.h>

Servo myServo;
byte potPin = A0;  //Analog pin used to connect the potentiometer
byte servoPin = 9; //Pin used to connect the servo
//Example continues on next page
```

```
int potVal; //Variable to store the read value from the potentiometer
int angle;  //Variable to store the angle of the servo

void setup() {
  myServo.attach(servoPin);
}
void loop() {
  potVal = analogRead(potPin); //Reads the value from potentiometer
  angle = map(potVal, 0, 1023, 0, 180); //Convert to corresponding angle
  myservo.write(angle); //Moves the servo to angle
  delay(15);
}
```

```
//Sweeping two servos back and forth automatically

#include <Servo.h>

Servo myServo1;
Servo myServo2;

byte servoPin1 = 9;  //Pin used to connect servo 1
byte servoPin2 = 10;  //Pin used to connect servo 2

int angle = 0;  //Variable to determine the angle of the servos

void setup() {
  myServo1.attach(servoPin1);
  myServo2.attach(servoPin2);
}

void loop() {
  //Value of angle goes from 0 to 180
  for (angle  = 0; angle <= 180; angle += 1) {
    myServo1.write(angle);    //First servo moves according to angle
    myServo2.write(180 - angle); //Second servo moves in reverse
    delay(15);
  }

//Example continues on next page
```

```
//Value of angle goes from 180 to 0
  for (angle  = 180; angle >= 0; angle -= 1) {
    myServo1.write(angle);
    myServo2.write(180 - angle);
    delay(15);
  }
}
```