Moving servos with button presses!

Y9 Digital Electronics Lesson 5

Task 1: Reading Light Levels

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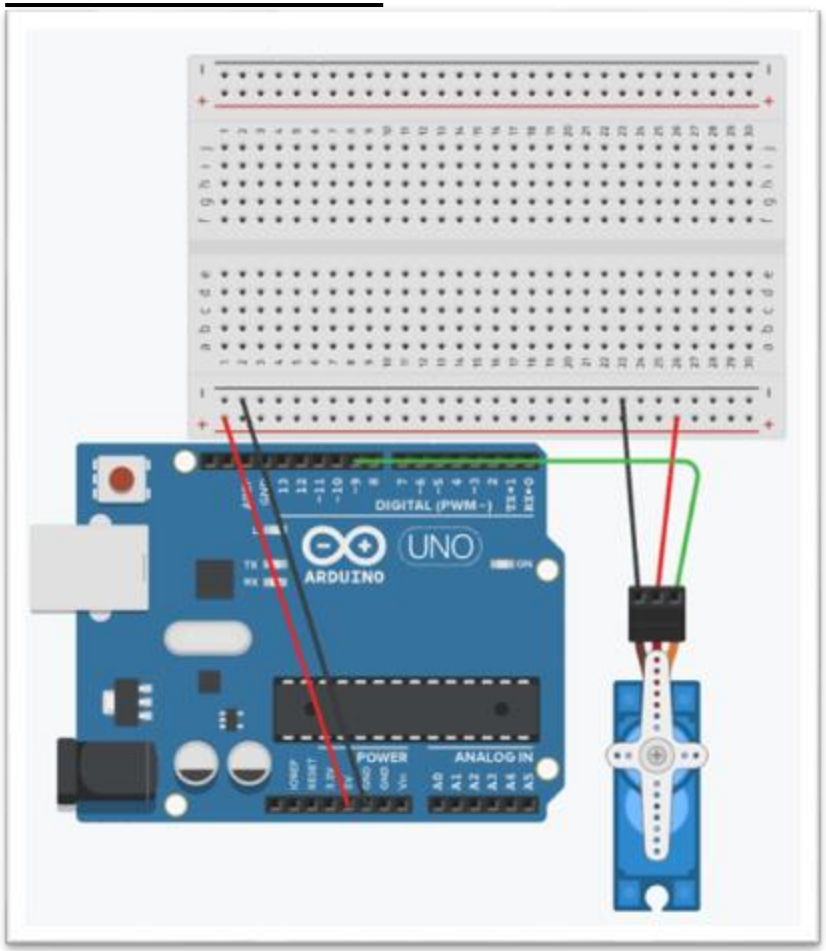
Servos are devices which can turn electrical energy into movement. They have three connections: Grounding, power and instructions to turn. You can tell the servo how many degrees to move in the code!

The Circuit



The Code

```
#include <Servo.h>

Servo myServo;

void setup() {
  myServo.attach(9);  // Servo on pin 9
}

void loop() {
  myServo.write(90);  // Go to 90°
  delay(2000);        // Wait 2 seconds
  myServo.write(0);   // Go back to 0°
  delay(2000);
}
```

Task 2: Adding an LED output

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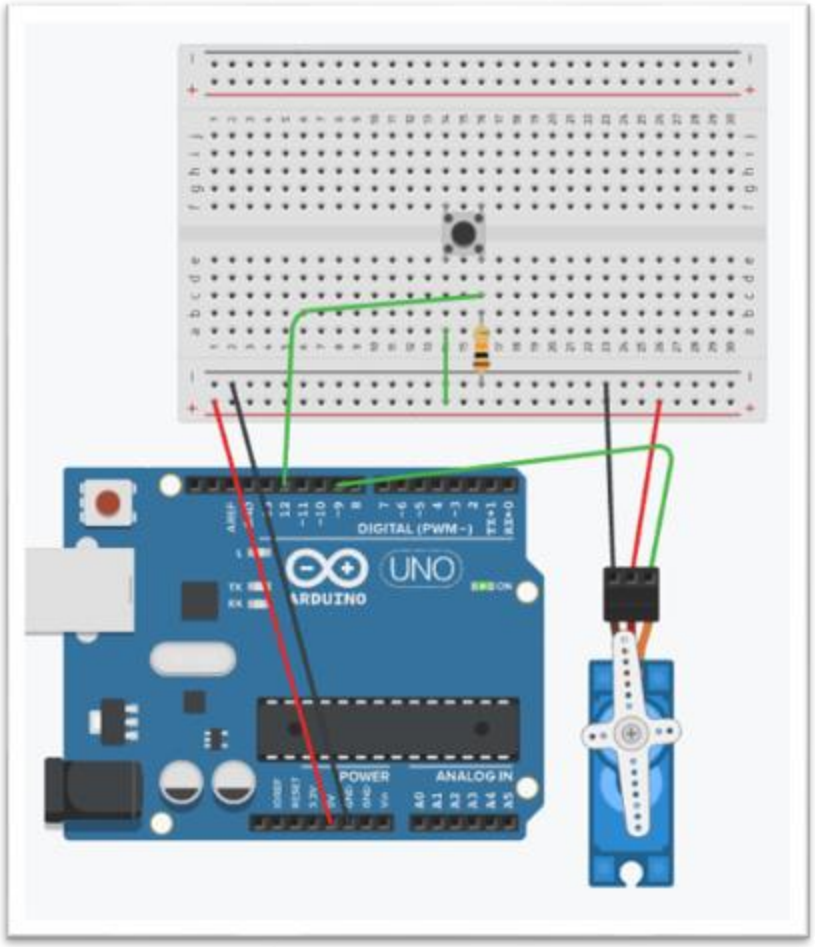
Add a button which can be pressed to trigger the movement of the servo.

The Circuit



The Code

```
#include <Servo.h>

Servo myServo;

const int servoPin = 9;
const int buttonPin = 12;

void setup() {
  myServo.attach(servoPin);
  pinMode(buttonPin, INPUT); // Button wired to GND

  myServo.write(0);
}

void loop() {

  int buttonState = digitalRead(buttonPin);


  if (buttonState == HIGH) { // Button pressed
    myServo.write(90);     // Move to 90°
    delay(2000);           // Wait 2 seconds
    myServo.write(0);      // Move back to 0°

  }
}
```

Task 3: Independent Challenge

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Edit your circuit to add a second button and alter your code so when the first button is pressed, the servo moves to one position and when the second button is pressed, it moves back!

You could also add LED's which light up when the servo has been put in position.