

# Homework 2 - mash up morse code

When I talked about the Morse code / SOS project in class I mentioned that it might be useful to use a variable that would hold the value for the length of a dot:

```
int dot = 150;
```

So, for example, the function called *loop* in a Morse code initials program (sketch) might look like this:

```
void loop()
{
    int dot = 150;

    // morse code for A - which is dot dash

    digitalWrite(13, HIGH); // DOT block
    delay(dot);             // Wait for one second
    digitalWrite(13, LOW);  // Turn off the LED
    delay(dot);             // Each dot or dash is followed by a
                           // short silence, equal to the dot
                           // duration.

    digitalWrite(13, HIGH); // DASH block
    delay(dot * 3);
    digitalWrite(13, LOW);
    delay(dot * 3);         // The letters of a word are separated
                           // by a space equal to three dots
}
```

If your code for the Morse code project does not use a variable holding the length of a dot, it would be wise to convert the program and test it before continuing.

You will be modifying this code for this homework. It would be a good idea to make a copy of your code by using “save as” and give it a name like hw2.

The task for this homework is to add a potentiometer to your hardware which will control the speed at which your Morse code message is displayed.

**Hacker edition**

In the simplest implementation for the problem above, the speed of the blinking will not change until the end of the message. So you may have to wait a long time before seeing the results of you twisting the pot's knob. Can you modify the code to update the speed after every letter?