Instructions for Assignment 2: Fahrenheit/Celsius Conversion
Due midnight Saturday, January 19

The second assignment is to demonstrate an initial use of variables, and the use of cin to get input from the console. The assignment is as follows: create a program that prompts the user to enter a temperature, reads the temperature that the user has entered, and displays the corresponding temperature in other units. You may either convert from Fahrenheit to Celsius, or from Celsius to Fahrenheit. Unlike the version shown in the class video which used integers, your version must handle fractions of a degree by using the "double" type.

The equation for converting F to C is: (F -32) * 5 / 9

The equation for converting C to F is: C * 9 / 5 + 32

Make sure you use parentheses to do the correct computation. You can test your code on the following conversions: 10C=50F, 20C=68F, -40C=-40F, 99.5F=37.5C, and 98.6F=37C.

Here are the rubrics for this assignment (1 point for each)

The cpp file is named yournameF2C.cpp or yournameC2F.cpp.

The cpp file starts with the same header comment section as in assignment 1. (Note that the comment lines the start with a single * should have a space before the *.)

The program outputs a pleasant greeting that introduces the program (e.g. "I will convert temperatures for you").

The program prompts the user for input with a meaningful request ending with a colon (:)..

The cin waits on the same line as the prompt.

The program outputs a meaningful message about the conversion along with the result.

The program computes the correct result

The program handles "floating point" values like 98.6 or 37.2.

All code is correctly indented. (To fix indents, type the sequence: Ctrl-A, Ctrl-K, Ctrl-F)

The program ends with a `return 0;` statement.

If you don't want to have to restart your program each time, you can add the following two lines of code which will make it repeat until you enter a temperature of 0. Insert the following "begin loop" line before the line that outputs the user prompt:

```
do {
```

and insert the corresponding "end loop" line before the final statement of return 0;

```
} while (temperatureInFahrenheit != 0);
```

Replace temperatureInFahrenheit with the name of the variable that you are using for input.

Those of you who want a more advanced challenge can earn 2 extra credit points if you read in a letter after the number (either C or F), and do the conversion in either direction. You will have to use conditional code to make this work. The variable type for a character is `char`. You can compare the letter using a literal letter in single quotes: `if (charUnits == 'C')`.