Programming Exercise 10.3

Temperature Conversion, v.3.0

Purpose. Practice writing programs that use EOF (end-of-file) loops. Also get experience with a program that manages when formatting is applied to the output of floating point values and when it is not.

Requirements. Modify Exercise 6.4's `Canada2.py`, replacing console inputs with text file inputs. Name the new program **`Canada3.py`**.

1. Modify the program so that it reads input temperatures from a text file (named **`temps.txt`**) in the working directory. The file should allow one temperature per line, possibly with decimal points and digits after the decimal (like 12.34).

2. The program should end when a sentinel value of -999 is entered from the file as the input temperature, or if the end-of-file is reached.

3. Modify the screen output statement so that it echoes the input Celsius temperature in addition to the calculated Fahrenheit temperature. Each Celsius/Fahrenheit pair should be on its own single line of screen output. So if there are 4 temperatures in the file, there should be 4 lines of output.

4. Express the Celsius value *without formatting*. Express the Fahrenheit value with one decimal digit (like 56.7).

Program I/O. Input: from a named temps.txt with any number of lines of numbers (one per line), where the last line contains the number -999. Output: Echoes of the unformatted input Celsius value and the formatted Fahrenheit value, one per input line, excluding the sentinel.

Example.

```
100. Celsius equals 212.0 Fahrenheit
0. Celsius equals 32.0 Fahrenheit
-40. Celsius equals -40.0 Fahrenheit
100.001 Celsius equals 212.0 Fahrenheit
```