Problem 14: Is It Hot In Here?

Difficulty: Easy

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Problem Background

Talking about the weather has been one of the most common small-talk subjects since the beginning of time. "Whew, can you believe this heat wave? It's been 38 degrees for days!" Wait, what? Anyone who lives in Texas should know better than to complain when the temperature gets above 38 degrees. Or should they? It all depends on the temperature scale!

In the United States, the Fahrenheit temperature scale is used for weather forecasts, while most of the rest of the world uses the Celsius scale. Just like talking to people who speak different languages, if we want to be able to talk about the weather with someone who uses a different scale, we need a translator. That's where you come in!

Problem Description

Your job is to write a temperature translator program. Here is a formula that relates a temperature measured in Fahrenheit (F) to a temperature measured in Celsius (C):

$$°C = \frac{5}{9}(°F - 32)$$

Sample Input

The first line of your program's input, received from the standard input channel, will contain a positive integer representing the number of test cases. Each test case will include:

- A positive integer, N, representing the number of temperature conversions that will follow.
- N lines, each containing a temperature value and a scale (C or F) separated by a space.

```
2
3
0 C
212 F
50.0 C
4
98.6 F
-6 C
40.1 C
123.4 F
```

Sample Output

Your program should convert the temperature to the other scale and print it out for easy reading. Your output lines should follow the following format:

<OriginalNumber> <OriginalScale> = <ConvertedNumber> <NewScale>

Your original number should appear just as it is from the input, but your converted number should always be rounded to one decimal place and include trailing zeroes.

```
0 C = 32.0 F
212 F = 100.0 C
50.0 C = 122.0 F
98.6 F = 37.0 C
-6 C = 21.2 F
40.1 C = 104.2 F
123.4 F = 50.8 C
```