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# Exercises for Programmers

57 Challenges to Develop Your Coding Skills

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The  
Pragmatic  
Programmers

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Develop Your  
Coding Skills

Brian P. Hogan

*Edited by Susannah Davidson Pfalzer*

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You'll often need to determine which part of a program is run based on user input or other events.

Create a program that converts temperatures from Fahrenheit to Celsius or from Celsius to Fahrenheit. Prompt for the starting temperature. The program should prompt for the type of conversion and then perform the conversion.

The formulas are

$$C = (F - 32) \times 5/9$$

and

$$F = (C \times 9/5) + 32$$

### Example Output

```
Press C to convert from Fahrenheit to Celsius.  
Press F to convert from Celsius to Fahrenheit.  
Your choice: C
```

```
Please enter the temperature in Fahrenheit: 32  
The temperature in Celsius is 0.
```

### Constraints

- Ensure that you allow upper or lowercase values for C and F.
- Use as few output statements as possible and avoid repeating output strings.

### Challenges

- Revise the program to ensure that inputs are entered as numeric values. Don't allow the user to proceed if the value entered is not numeric.
- Break the program into functions that perform the computations.
- Implement this program as a GUI program that automatically updates the values when any value changes.
- Modify the program so it also supports the Kelvin scale.