

# Java Fahrenheit Converter

Time required: 45 minutes

- Comment each line of code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

## Pseudocode

1. Write pseudocode or TODO for the exercise
2. Submit with the assignment

## Requirements

Congratulations, you've got a job as a junior developer at the National Weather Service. They would like a program that converts Fahrenheit to Celsius and Kelvin.

Write a Java program that converts Fahrenheit to Celsius and Kelvin. The formulas are as follows:

$$C = (F - 32) \times 5/9$$
$$K = (F - 32) \times 5/9 + 273.15$$

These are math formulas, not Java formulas. Let's convert these to Java code.

- Remember the order of precedence.
- Use parentheses to be clear about the order of operations.
- We want float math; we will use double for our operations.
- Use good variable names: Celsius, etc.

## How to Get Started

1. Create a Java program named **TemperatureConverter.java** that gets float input from the user and prints out the information shown.
2. Create variables for all inputs and outputs.
3. Comment each line of code.

## TODO Outline of Program

You can use the following TODO outline to get started with your program.

```
"""  
    Filename: FahrenheitConverter.java  
    Author:  
    Created:  
    Purpose: Get Fahrenheit temperature as a float  
    Calculate Celsius and Kelvin  
"""  
  
# TODO: Print creative program title  
  
# TODO: Get Fahrenheit input  
  
# TODO: Echo user input  
  
# TODO: Calculate Celsius  
  
# TODO: Calculate Kelvin  
  
# TODO: Display Celsius and Kelvin
```

Example runs:

```
Enter temperature in Fahrenheit: -40  
Temperature in Celsius: -40.0  
Temperature in Kelvin: 233.14999999999998
```

```
Enter temperature in Fahrenheit: 70  
Temperature in Celsius: 21.11111111111111  
Temperature in Kelvin: 294.26111111111106
```

## Formatting

There are several methods of number formatting in Java.

Research how to use:

```
import java.text.DecimalFormat
```

to format the numbers to 2 decimal places. Use this method in your program.

```
-----  
| Java Fahrenheit Converter |  
-----  
Enter temperature in Fahrenheit: -40  
Temperature in Celsius: -40.00  
Temperature in Kelvin: 233.15
```

```
-----  
| Java Fahrenheit Converter |  
-----  
Enter temperature in Fahrenheit: 70  
Temperature in Celsius: 21.11  
Temperature in Kelvin: 294.26
```

---

### Assignment Submission

1. Attach the pseudocode.
2. Attach the program files.
3. Attach screenshots showing the successful operation of the program.
4. Submit in Blackboard.