

## Numeric Types

**Purpose:** To calculate values using Java algorithms.

**Learning Objectives:**

- Numeric data types
- Arithmetic operations
- System input and output
- Creating a program from scratch using Eclipse IDE

**Part I:** Create a program (NumericTypes1.java) to calculate:

- The average of two scores. Use constants for the scores and the number of scores (i.e., 2).
- The boiling point of water in Celsius. Use a constant for the boiling point in Fahrenheit (i.e., 212) and this formula for conversion:  
$$\text{degrees Celsius} = 5/9 \times (\text{temp in Fahrenheit} - 32)$$
- Output the two scores and the average
- Output the boiling point of water in Fahrenheit and Celsius.

**Part II:** Copy this program and modify it to accept user input

- Import the Scanner class from the Java API library
- Create a Scanner object and use it to get input for the two scores to be averaged.
- Add user prompts to calculate and display the volume of a sphere based on its **diameter**
  - Sphere volume =  $4/3 \times \pi \times \text{the radius cubed}$
  - You can use Math.PI to get the constant  $\pi$
- Prompt the user for their first and last name.
- Say hello to the user, e.g., "Hello Jack Robbins!".