**Java Basics**

JShell, introduced in **Java 9**, is an interactive tool that allows developers to quickly test and execute Java code snippets without the need to write a full program. It is a **REPL (Read-Evaluate-Print Loop)** tool, making it easier to prototype, learn, and experiment with Java.

**Key Features of JShell:**

1. **Interactive Execution**: You can execute Java statements, expressions, and declarations interactively, and see the results immediately.
2. **Quick Prototyping**: Test small pieces of code or business logic without creating a full class or method.
3. **Learning Tool**: Ideal for beginners to explore Java concepts and APIs in a hands-on manner.
4. **Error Feedback**: Provides instant feedback on errors, helping you debug and refine your code quickly.

**How to Use JShell:**

1. **Start JShell**: Open your terminal/command prompt and type:

jshell

1. **Write Code**: Enter Java code directly. For example:

System.out.println("Hello, JShell!");

Output:

Hello, JShell!

1. **Define Variables**:

int x = 10;

x \* 2;

Output:

20

1. **Exit JShell**: Type:

/exit

**Common Commands in JShell:**

* **/list**: Lists all entered snippets.
* **/edit**: Edits a specific snippet.
* **/save <file>**: Saves the session to a file.
* **/open <file>**: Loads a saved session.
* **/help**: Displays help for commands.

JShell simplifies Java development by reducing the overhead of setting up a full project, making it a powerful tool for quick testing and learning.

**How java works**

**VARIABLES**

Variables are containers for storing data values.

In Java, there are different **types** of variables, for example:

* String - stores text, such as "Hello". String values are surrounded by double quotes
* int - stores integers (whole numbers), without decimals, such as 123 or -123
* float - stores floating point numbers, with decimals, such as 19.99 or -19.99
* char - stores single characters, such as 'a' or 'B'. Char values are surrounded by single quotes
* boolean - stores values with two states: true or false

**DATA TYPES**

**LITERALS**

**Type Conversion and Casting**

ARITHMATIC OPERATORS

RELATIONAL OPERATORS   
LOGICAL OPERATORS