**What is java?**

Java is a high-level, object-oriented programming language developed by **Sun Microsystems** (now owned by **Oracle Corporation**) and released in **1995**. It is designed to be platform-independent, meaning that Java programs can run on any operating system with a Java Virtual Machine (**JVM**), following the principle **"Write Once, Run Anywhere" (WORA)**.

**Key Features of Java:**

1. **Platform Independent** – Java programs can run on different operating systems without modification.
2. **Object-Oriented** – Everything in Java is treated as an object, making it modular and reusable.
3. **Simple & Secure** – Java has a simple syntax and security features like bytecode verification and a security manager.
4. **Multithreaded** – Supports multiple threads for concurrent programming.
5. **Robust & Reliable** – Features like exception handling and garbage collection make it a stable language.
6. **Automatic Memory Management** – Java uses **Garbage Collection** to manage memory automatically.
7. **High Performance** – Uses **Just-In-Time (JIT) Compiler** for faster execution.

**Java Editions:**

Java comes in different editions tailored for various applications:

1. **Java SE (Standard Edition)** – Core Java for general-purpose applications.
2. **Java EE (Enterprise Edition)** – Used for building large-scale web and enterprise applications.
3. **Java ME (Micro Edition)** – For mobile and embedded systems.
4. **Jakarta EE** (Successor to Java EE) – Now maintained by the Eclipse Foundation.

**Applications of Java:**

* Web applications (Spring, JSP, Servlets)
* Enterprise applications (Banking, E-commerce)
* Mobile applications (Android development)
* Game development
* Big Data (Hadoop)
* Cloud computing and AI-based applications