Day 2 – Introduction to Java

Objective:

To understand the basic concepts, features, and applications of the Java programming language.

Content:

Today, I learned about **Java**, a high-level, object-oriented, and platform-independent programming language widely used for software development.
Java was developed with the principle of **"Write Once, Run Anywhere (WORA)"**, meaning that once code is compiled, it can run on any device that has a Java Virtual Machine (JVM).

Java follows the **object-oriented programming (OOP)** paradigm, which helps in organizing programs into reusable and maintainable components.

Main Features of Java:

- **Simple and Easy to Learn:** Java syntax is similar to C/C++, making it beginner-friendly.

- **Object-Oriented:** Supports concepts like classes, inheritance, and polymorphism.

- **Platform Independent:** Java programs can run on any operating system with JVM.

- **Secure:** Includes built-in security features like bytecode verification and sandboxing.

- **Robust:** Strong memory management and exception handling.

- **Multithreaded:** Allows simultaneous execution of multiple parts of a program.

- **Portable:** Java code can be easily transferred and executed across systems.

Java Editions:

- **Java SE (Standard Edition):** For desktop and core programming.

- **Java EE (Enterprise Edition):** For web and enterprise-level applications.

- **Java ME (Micro Edition):** For mobile and embedded systems.

Applications of Java:

- Android application development

- Web-based applications

- Enterprise software

- Scientific and financial systems

Learning Outcome:

Gained a clear understanding of Java as a programming language, its major features, and the wide range of areas where Java is applied. Understood why Java remains one of the most popular and reliable languages in the IT industry.