15 Days (Introduction to Java)

Objective:

- Understand the basics of Java programming and build simple applications.

Syllabus:

1. **Day 1-3:** Introduction to Java
    a. Java overview and setup (JDK, IDEs like IntelliJ IDEA, Eclipse).
    b. Writing and executing basic Java programs.
2. **Day 4-6:** Java Fundamentals
    a. Data types, variables, and operators.
    b. Control flow statements (if-else, loops).
3. **Day 7-9:** Object-Oriented Programming (OOP) Basics
    a. Classes, objects, and methods.
    b. Constructors and access modifiers.
4. **Day 10-12:** Collections and Arrays
    a. Arrays, ArrayLists, and basic collections framework.
    b. Iterators and loops for collections.
5. **Day 13-15:** Hands-On Practice
    a. Simple console-based projects (e.g., calculator, student management system).

30 Days (Beginner-Level Java Development)

Objective:

- Build a strong foundation in Java with OOP principles and basic application development.

Syllabus:

1. **Week 1:** Core Java
    a. Advanced OOP concepts: inheritance, polymorphism, encapsulation, and abstraction.
    b. Static and final keywords, nested and inner classes.
2. **Week 2:** Exception Handling and I/O
    a. Error and exception handling (try-catch, custom exceptions).
    b. File handling using Java I/O (FileReader, FileWriter).
3. **Week 3:** Multithreading and Concurrency
    a. Threads, runnable interface, and thread lifecycle.

    b. Synchronization and thread-safe programming.
4. **Week 4:** Basic Project
    a. Develop a console-based project using all learned concepts (e.g., Library Management System).

45 Days (Intermediate-Level Java Development)

Objective:

- Learn intermediate Java features and introduce database and GUI programming.

Syllabus:

1. **Week 1-2:** Advanced Java Concepts
    a. Generics and lambda expressions.
    b. Streams API and functional programming.
2. **Week 3:** Database Programming
    a. Introduction to JDBC.
    b. Connecting Java applications with databases (MySQL, PostgreSQL).
3. **Week 4:** GUI Programming
    a. JavaFX or Swing basics.
    b. Building simple graphical user interfaces.
4. **Week 5:** Intermediate Project
    a. Build a database-connected application (e.g., Inventory Management System).