

## **Week 2**

### ***Introduction and software requirements for HTML/Javascript PHP programs:***

#### **1. What are the softwares that helps to run java programs.**

To develop and run Java programs, we need:

Java Development Kit (JDK) – it is a software development environment used for building Java applications.

Java Runtime Environment (JRE) – it is specifically designed to run Java applications.

IDE (Integrated Development Environment) - highly recommended for easier coding, debugging, and project management.

Popular choices:

- Eclipse - Open-source, supports plugins for web/mobile development.
- NetBeans - Officially supported by Oracle, good for beginners.
- IntelliJ IDEA - Powerful (paid & free versions available).

#### **2. What is JDK and JRE.**

Java Development Kit (JDK) – it is a software development environment used for building Java applications.

It comprises of a compiler, interpreter/loader, archiver and a debugger. Modern JDK's are equipped with JRE, so that a developer may only need to use the JDK.

Java Runtime Environment (JRE) – it is specifically designed to run Java applications.

It has Java Virtual Machine (JVM) and Java Class Libraries. This is used by end users who want to run java applications.

It doesn't provide any developing features for its users.

### **3. What is Eclipse IDE.**

Eclipse is a Free and open-source IDE, primarily designed for Java. It provides a well-balanced environment to developers.

#### Key Features:

- Code auto-completion and refactoring.
- Built-in debugger & error detection.
- Supports Maven/Gradle for project management.
- Extensible via plugins (e.g., for Spring, Android).

### **4. How to Run Java Programs in Eclipse/NetBeans IDE.**

#### In Eclipse:

##### 1. Create a Project:

File → New → Java Project → Enter name → Finish.

##### 2. Write Code:

Right-click src → New → Class → Add main method.

##### 3. Run the Program:

Right-click the file → Run As → Java Application.

Or use the green "Run" button toolbar in the toolbar.

#### In NetBeans:

##### 1. New Project:

File → New Project → Java → Java Application → Next → Finish.

##### 2. Write Code:

NetBeans auto-creates a main class. Modify as needed.

##### 3. Run the Program:

Click the green "Run" button or press Shift+F6.