Week 2

Question 1: What is the software that helps to run java programs

JDK **(Java Development Kit):**

* A software development environment used for developing Java applications.
* Includes:
  + Compiler (javac)
  + JRE
  + Debugger, JavaDoc, and other development tools.

JRE **(Java Runtime Environment):**

* A package of software that allows Java programs to run.
* Includes:
  + JVM (Java Virtual Machine)
  + Core libraries
* Does NOT include the compiler or development tools.

To run Java programs, you typically need the following:

* **JDK (Java Development Kit):** Essential for compiling and running Java code.
* **JRE (Java Runtime Environment):** Provides the libraries and JVM (Java Virtual Machine) to run Java applications.
* **IDE (Integrated Development Environment):**
  + **Eclipse**
  + **NetBeans**
  + **IntelliJ IDEA**
  + **BlueJ** (for beginners)
  + **VS Code** (with Java plugins)
* **Command Line Tools:**
  + Terminal or Command Prompt (using javac and java commands)

[Java](https://www.geeksforgeeks.org/java/java/)is a **powerful programming language** used to build a wide range of applications, from **mobile apps to complex enterprise software**. It's known for being **platform-independent** (works on different systems) and **easy to learn,** making it a popular choice for developers.

Question 2: What is JDK and JRE.

Question 3: What is eclipse IDE.

Eclipse IDE is a popular open-source integrated development environment used primarily for Java development.

Features:

* Code editor with syntax highlighting
* Project management tools
* Built-in compiler and debugger
* GUI design tools (via plugins)
* Integration with version control (like Git)

Question 4: How to run java program in Eclipse/NetBeans IDE:

#### **In Eclipse IDE:**

#### Install JDK and Eclipse IDE (Eclipse requires JDK).

#### Launch Eclipse and select a workspace directory (this is where your projects are saved).

#### Create a new Java project:

#### File → New → Java Project

#### Give it a name and click Finish.

#### Create a class:

#### Right-click on the src folder → New → Class

#### Name it (e.g., Main), check public static void main(String[] args) box.

#### Write your code inside the class.

#### Run the program:

#### Click the green Run button or right-click the class → Run As → Java Application.

#### **In NetBeans IDE:**

1. **Install NetBeans IDE** (ensure JDK is installed).
2. Install **JDK** and **NetBeans**.
3. Open NetBeans and go to:  
   File → New Project → Choose Java → Java Application.
4. Give your project a name.
5. NetBeans auto-generates a Main class with a main() method.
6. Add your code inside main() or other methods.
7. Press **F6** or click the **green play button** to run.