



Assignments 1 : Aditi_Mehre_KH

1. A Short History of Java

- **Key Points:**
 - Created by Sun Microsystems in the mid-1990s.
 - Initially called Oak, renamed Java.
 - Aimed at providing a platform-independent programming language.

2. Java Language Features

- **Key Points:**
 - Object-oriented programming (OOP) principles.
 - Platform independence via the Java Virtual Machine (JVM).
 - Automatic memory management (garbage collection).
 - Strongly typed language with robust error-checking.

3. Which Version of JDK Should I Use?

- **Key Points:**
 - Evaluate based on project requirements, compatibility, and new features.
 - Consider long-term support (LTS) versions for stability.

4. JDK Installation Directory Structure

- **Key Points:**
 - **bin:** Contains executables like `javac` and `java`.
 - **lib:** Contains libraries used by the JDK.
 - **include:** Header files for native code.

5. About Java Technology

- **Key Points:**
 - Java is a general-purpose, high-level programming language.
 - Components include the Java Development Kit (JDK), Java Runtime Environment (JRE), and JVM.

6. Coding Assignments

- **Hello World Program:**
 - Write a Java program to print "Hello World!!".
 - **Code Example:**

```
public class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello World!!");  
    }  
}
```

- **Compile with Verbose Option:**
 - Compile using `javac -verbose HelloWorld.java` to see detailed output.
- **Inspect Bytecode:**
 - Use `javap -c HelloWorld` to examine the bytecode of the compiled `.class` file.

7. The JVM Architecture Explained

- **Key Points:**
 - JVM interprets bytecode and runs Java programs.
 - Handles memory management, garbage collection, and just-in-time (JIT) compilation.

8. The Java Language Environment: Contents

- **Key Points:**

- Provides an overview of the Java platform, including its libraries and tools.
- Describes the environment setup and how it supports development and execution of Java programs.