

Lab Assignment: Introduction to Java Environment

Objective:

1. To understand the basics of the Java Development Environment.
2. To explore the roles of JDK, JRE, and JVM.
3. To set up Java in Visual Studio Code and use GitHub for version control.
4. To write and execute basic Java programs.

LAB TASKS:

Task 1: Exploring JDK, JRE, and JVM

1. Understand the concepts:
 - Explain the roles of JDK (Java Development Kit), JRE (Java Runtime Environment), and JVM (Java Virtual Machine) in running and compiling Java applications.
 - Attach short notes about their functions and importance.
2. Install JDK:
 - Download the latest version of the JDK from Oracle's official website.
 - Install JDK on your system and verify the setup by running:
 - `java -version`
 - `javac -version`
3. Deliverable:
 - Attach screenshots verifying the successful installation of the JDK.

Task 2: Setting Up Visual Studio Code and GitHub

1. Set Up Visual Studio Code for Java:
 - Install Visual Studio Code from VS Code.
 - Install the Java Extension Pack.
 - Configure the workspace for Java development.

2. Basic GitHub command

Deliverable:

- Provide screenshots of the GitHub setup process, including initialization, commit, and push steps.

Task 3: Writing a Sample Hello World Program

Task 4: Write a program to display your name and address in different lines using `System.out.println`.

Task 5: Designing a Visually Appealing Grade Sheet. Write a Java program to display a visually appealing grade sheet using escape sequences (\n, \t) and special characters (*).

Instructions for Submission:

1. **Include:**
 - **Clear explanations and comments in the Java code for all tasks.**
 - **Attach screenshots of:**
 - **JDK installation and verification.**
 - **VS Code setup and GitHub operations.**
 - **Output for each Java program.**
2. **Submit all source code files and output screenshots in a single ZIP file.**