Lab 1: Setting Up the Java Development Environment:

Installation Report:

Task:1

JDK and IntelliJ IDEA:

This report documents the installation process for the Java Development Kit (JDK) and the Integrated Development Environment (IDE) IntelliJ IDEA.

Software versions used:

- JDK: [version (19.0.2)]
- Location of java in lp: C:\Program Files\Java\jdk-17\bin
- IntelliJ IDEA: [downloaded IntelliJ IDEA version (Community 2024.1)]
- Location: C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1\bin

Operating System:

Operating system (Windows 10)]

JDK Installation:

1. Download the JDK:

Oracle website (https://www.oracle.com/java/technologies/downloads/) and download JDK installer for operating system

2. Run the installer:

Downloaded installer file.

Follow the on-screen instructions to complete the installation.

Windows:

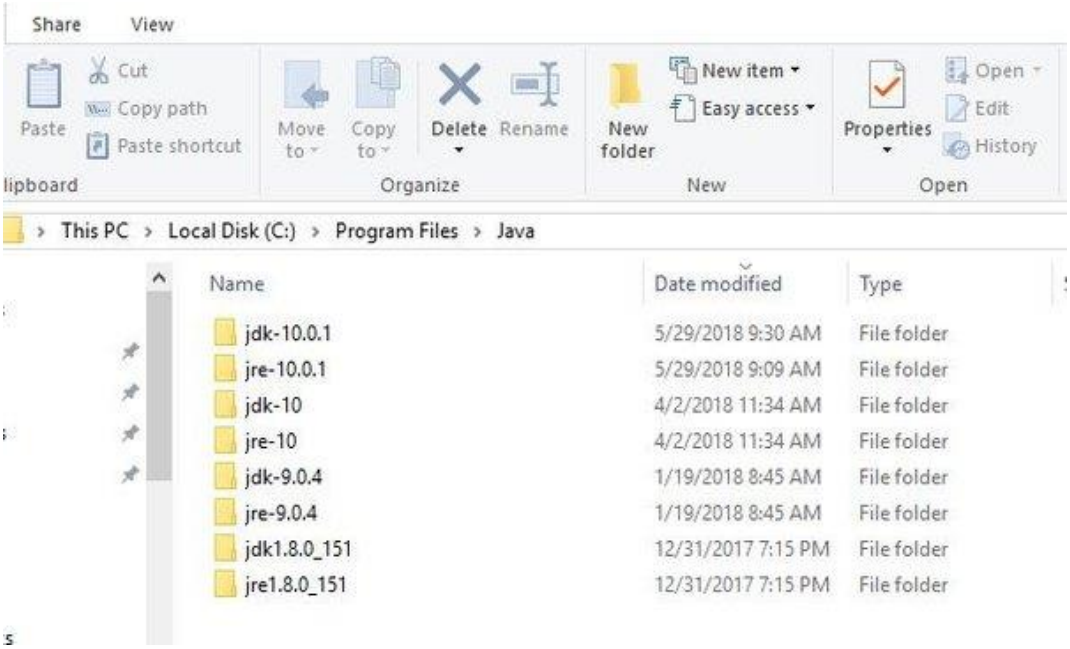
Choose an installation directory. The default location is usually `C:\Program Files\JetBrains\IntelliJ IDEA <version>`

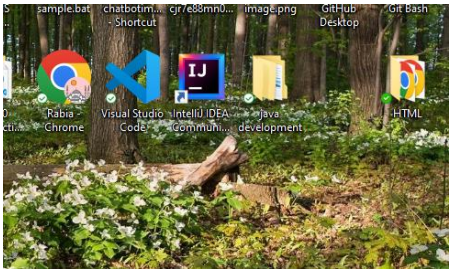
3. Configure IntelliJ IDEA (Optional):

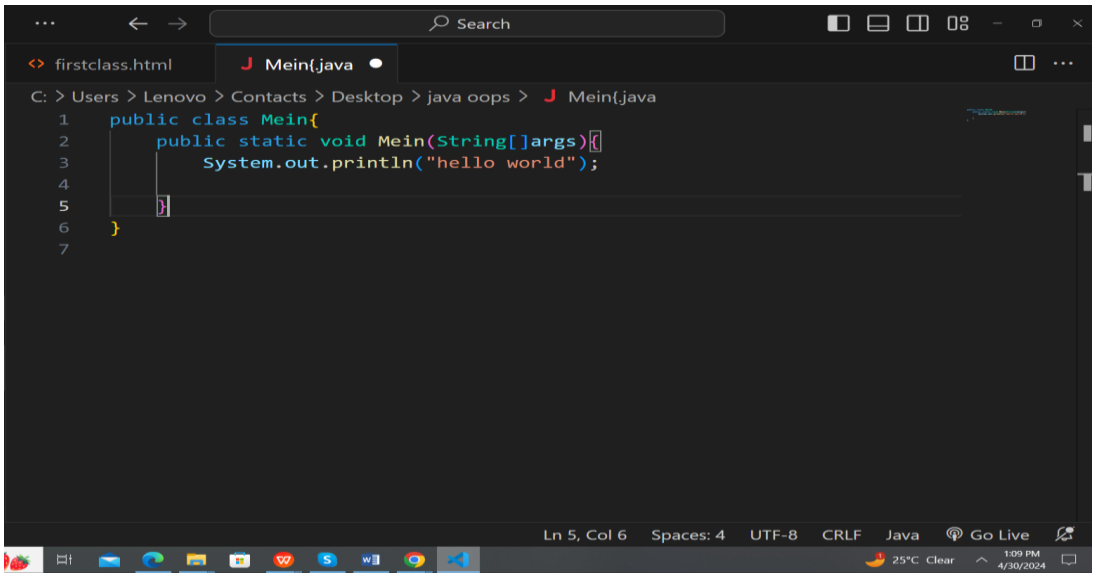
During installation, you can choose to import settings from a previous IntelliJ IDEA installation or configure them manually.eg

1. **Appearance and Theme:** Customize colors and font size.
2. **Keymap:** Choose or customize shortcuts.
3. **Plugins:** Extend functionality as needed.
4. **Code Style:** Ensure consistent formatting.
5. **Version Control:** Integrate Git or others.
6. **Build Configurations:** Specify JDK and settings.
7. **Project Structure:** Manage modules and dependencies.
8. **Templates:** Use predefined or create custom ones.
9. **Debugger:** Configure debugging options.
10. **Shortcuts:** Define custom actions or shortcuts.

4. The IntelliJ IDEA Welcome screen should be displayed.







Task: 2

Public class HelloWorld {

Public static void main (String [] ergs) {

System.out.println ("Hello, World!");

}

}

1. Class Declaration: `public class HelloWorld { ... }`

- In Java, every program consists of at least one class, and the class name must match the file name. Here, we declare a class named `HelloWorld`.

2. Main Method: `public static void main (String [] args) {...}`

- In Java, the `main` method serves as the entry point of the program. It must be declared exactly as shown here for the program to run.
- The `public` keyword indicates that the method can be accessed from anywhere.
- The `static` keyword means that the method belongs to the class itself, not to instances of the class.
- `Void` specifies that the method does not return any value.
- `String [] args` declares a parameter named `args`, which is an array of strings. This allows the program to accept command-line arguments.

3. System.out.println () Method: `System.out.println ("Hello, World!");`

- `System. Out` is an object of the `java.io.PrintStream` class that represents the standard output stream.
- `println()` is a method of the `Print Stream` class used to print a line of text to the output stream.
- `"Hello, World!"` is the string argument passed to the `println ()` method. This is the message that will be printed to the console.

In summary, the combination of class declaration, main method, and the `System.out.println ()` method is essential for creating a basic Java program that outputs "Hello, World!" to the sss

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