

1. INSTALLATION OF JDK

Experiment no. 1

Date: 10/7/24

Roll no: B014

Aim: To install Java Development Kit (JDK) and set environment variables and test by running a sample program.

Theory:

What is Java?

- Java is a class-based, object oriented programming language that is designed to have as few implementation dependencies as possible. It is intended to let application developer write once, and run anywhere (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java was 1st released in 1995 and is widely used for its simplicity, robustness and security features, making it a popular choice for enterprise level applications.
- It is a simple programming language. Java makes writing and debugging programs easy, it helps to create reusable code and modular programs.
- The syntax is similar to C/C++.

Download Java for windows 10:

- To download The latest Java Development kit installation file for windows 10:-

- 1) Open a web browser and navigate to the Oracle Java Downloads page.

- ②
- 2) Select the latest JDK version. In this example the ~~the~~ latest available version is JDK 21.
 - 3) Access the windows Tab.
 - 4) Click the x64 installer download link.

- Set environment variables in java.
- Follow the steps in the sections below to configure Java environment variables in windows.

Step 1: Add Java to System variables.

This step ensures that Java is accessible from the command line in any directory.

1. Open the start menu and search for environment variables

2. Select edit the system environment variables.

3. Select advanced in the system properties window.

4. Click environment variables.

5. Select the Path variable in the system variables category and click edit.

6. click new.

7. Enter the path to the Java bin directory

8. Click 'ok' to save the changes and exit the variable editing window.

Step 2: Add JAVA_HOME variable to point to the JDK installation directory. Follow the steps below to create the variable:

1. Click 'NEW' under the system variables category

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JDK 21 **JDK 17** GraalVM for JDK 21 GraalVM for JDK 17

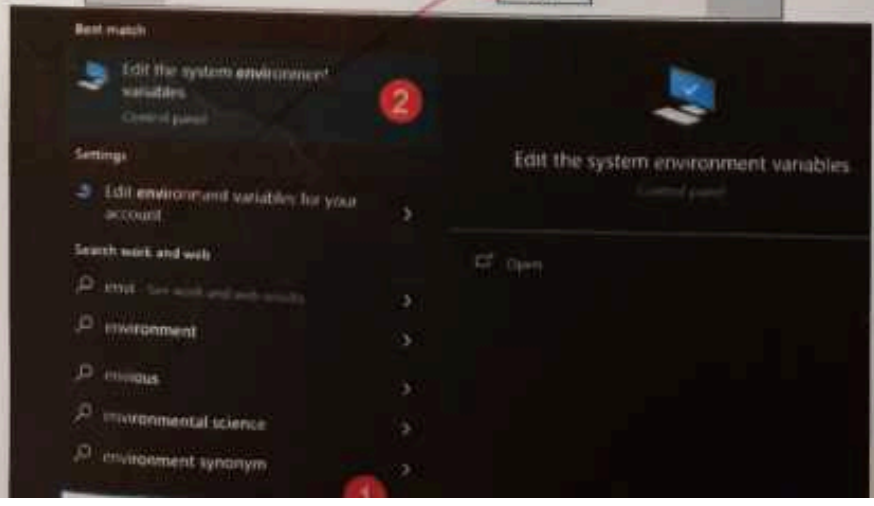
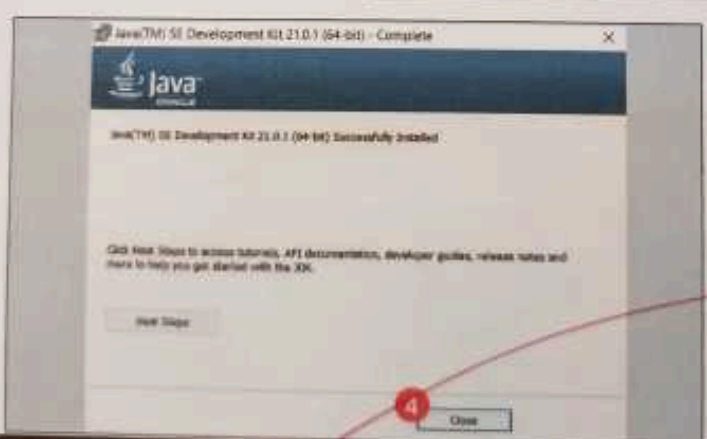
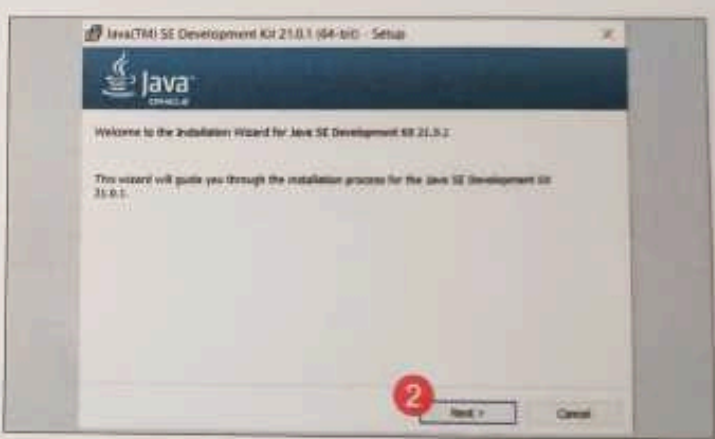
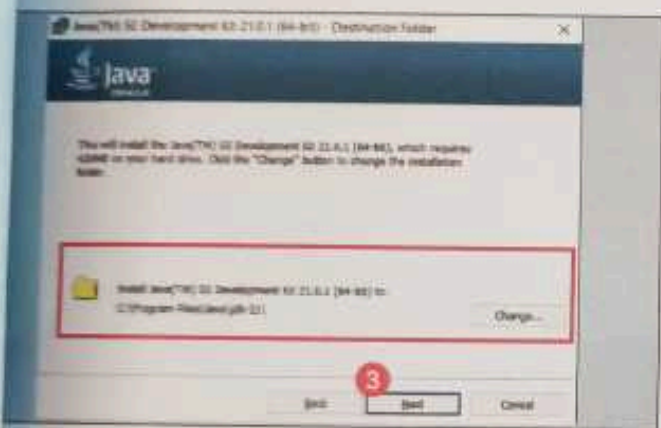
JDK Development Kit 21.0.1 downloads

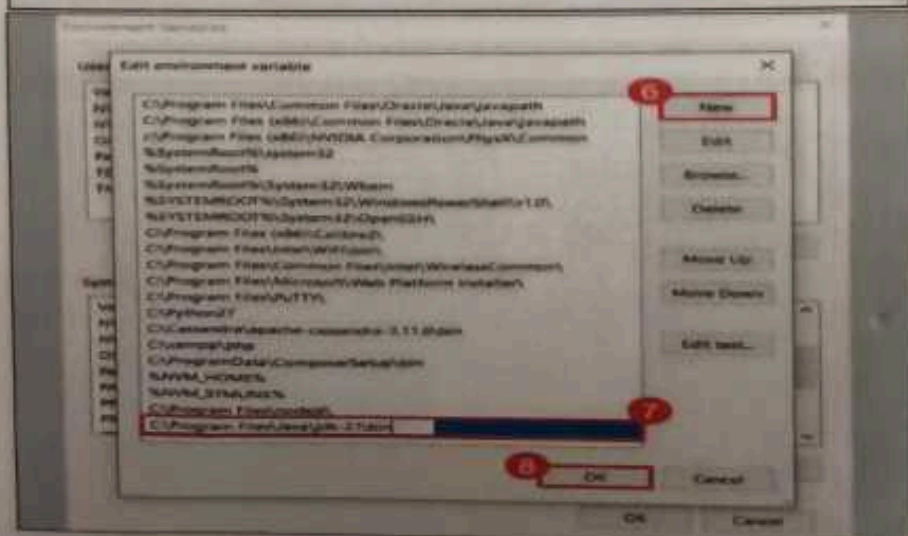
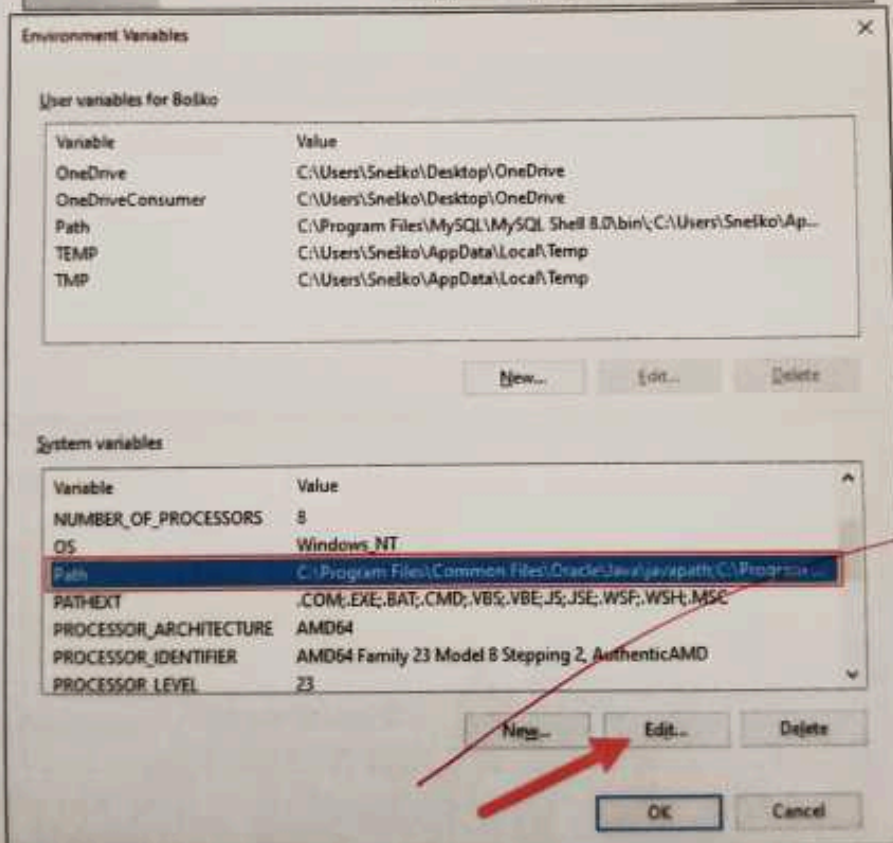
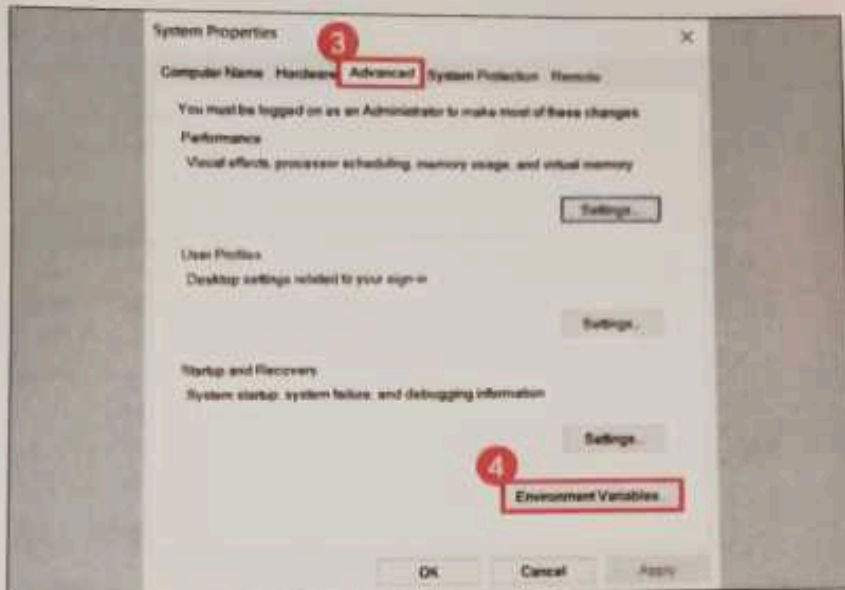
JDK 21 binaries are free to use in production and free to redistribute, at no cost, under the Oracle No-Fee Terms and Conditions (NFTC).

JDK 21 will receive updates under the NFTC, until September 2026, a year after the release of the next LTS. Subsequent JDK 21 updates will be licensed under the Java SE 07 beyond the limited free grants of the DTN license will require a fee.

Linux macOS **Windows**

Product/File description	File size	Download
jdk-21-Compressed-Archive	85.59 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-jdk_bin.zip [sha256]
jdk-21-Installer	163.82 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-jdk_bin.exe [sha256]
jdk-21 MSI Installer	162.60 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-jdk_bin.msi [sha256]





Environment Variables

User variables for Boško

Variable	Value
OneDrive	C:\Users\Snesko\Desktop\OneDrive
OneDriveConsumer	C:\Users\Snesko\Desktop\OneDrive
Path	C:\Program Files\MySQL\MySQL Shell 8.0\bin\;C:\Users\Snesko\Ap...
TEMP	C:\Users\Snesko\AppData\Local\Temp
TMP	C:\Users\Snesko\AppData\Local\Temp


New... Edit... Delete

System variables

Variable	Value
C_EM64T_REDIST11	C:\Program Files (x86)\Common Files\Intel\Shared Files\copl...
ComSpec	C:\WINDOWS\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PROCESSORS	8
OS	Windows_NT
Path	C:\Program Files\Common Files\Oracle\Java\javapath;C:\Program ...

New... Edit... Delete

OK Cancel

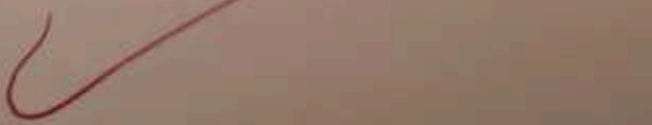


Edit System Variable

Variable name: JAVA_HOME **2**

Variable value: C:\Program Files\Java\jdk-21 **3**

Browse Directory... Browse File... **4** OK Cancel



to create a new variable.

2. Name the variable JAVA_HOME.
3. Enter the path in your JAVA JDK directory in the variable value field.
4. Click 'OK'.

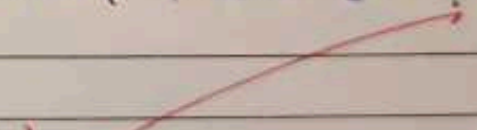
Test Java Installation:

- Verify that Java is installed by entering the java-version command in the command prompt.

Step 1: Write Test Java Script.

1. Open a text editor like Notepad or VS code and open a new file.
2. Enter the following code and click save:

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



Step 2: Compile & Test Java code.

Access the windows command prompt and complete the following steps:

1. Navigate to the directory where your Java file is saved.
2. Use the following command to compile the program.
javac myprogram.java.
3. Then, use: "Java HelloWorld" for output.

Command Prompt

Microsoft Windows [Version 10.0.22621.1992]
(c) Microsoft Corporation. All rights reserved.

```
C:\Users\sbmpc.student>cd C:\Users\sbmpc.student\Desktop\B01\java
```

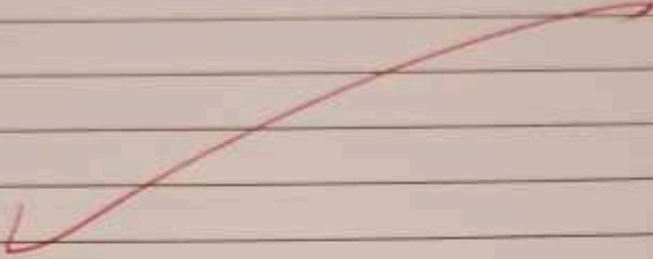
```
C:\Users\sbmpc.student\Desktop\B01\java>javac helloworld.java
```

```
C:\Users\sbmpc.student\Desktop\B01\java>java helloworld  
hello World
```

```
C:\Users\sbmpc.student\Desktop\B01\java>
```

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conclusion: Hence, we have installed JDK,
set the system variable & test it by running
a sample Java program.


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16/7/21