

Practical -1 Installation of JDK and IDE

- Installation of JDK

Step 1 : To install the latest version of Java, go to the <https://www.oracle.com/java/technologies/downloads/>

The screenshot shows the Oracle Java Downloads page for JDK 17 on Windows. The page has a dark header with navigation links: "Java downloads", "Tools and resources", and "Java archive". Below the header, a banner states "Java 21 and Java 17 available now" with a note that JDK 21 is the latest long-term support release. A button "Learn about Java SE Subscription" is present. The main content area is titled "JDK Development Kit 17.0.9 downloads" and includes a note about the Oracle No-Fee Terms and Conditions (NFTC). Below this, there are tabs for "Linux", "macOS", and "Windows", with "Windows" selected. A table lists the available download options for Windows:

Product/file description	File size	Download
x64 Compressed Archive	172.42 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip (sha256)
x64 Installer	153.51 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe (sha256)



Step 2 : Download Installer

The screenshot shows the Oracle Java SE Development Kit 17.0.2 downloads page. The page has a dark header with the Oracle logo and navigation links: "Products", "Industries", "Resources", "Support", "Events", "Developer", and "Partners". Below the header, the title "Java SE Development Kit 17.0.2 downloads" is displayed. A message thanks the user for downloading the release and explains that the JDK is a development environment for building applications. Below this, there are tabs for "Linux", "macOS", and "Windows", with "Windows" selected. A table lists the available download options for Windows:

Product/file description	File size	Download
x64 Compressed Archive	171.34 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip (sha256)
x64 Installer	152.43 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe (sha256)
x64 MSI Installer	151.32 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi (sha256)

The "x64 MSI Installer" row and its corresponding download link are highlighted with a red box.

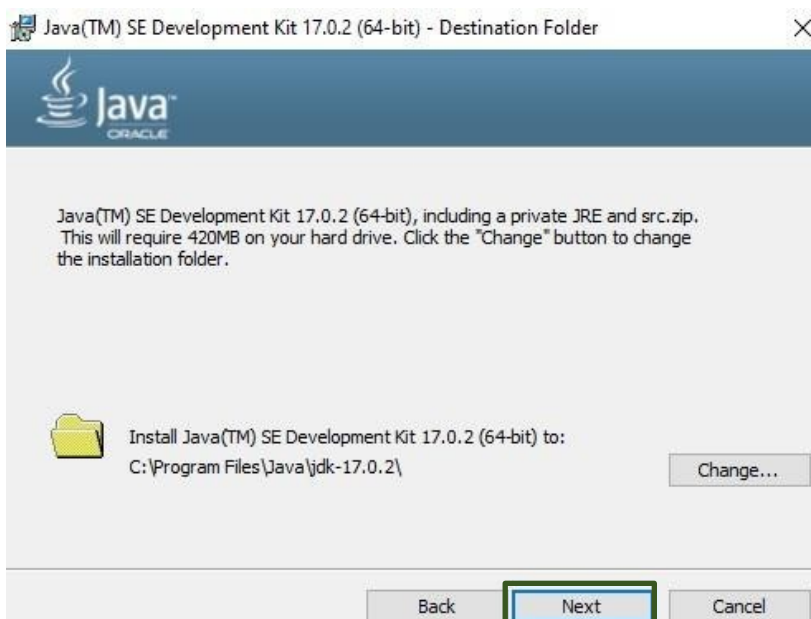
Step 3 : After you download the msi file from the Java download site, it should be in your Downloads folder. Double click on that file to run it and install Java.

Downloads				
Name	Date modified	Type	Size	
▼ Today (1)				
 jdk-17_windows-x64_bin.msi	2/20/2022 8:45 AM	Windows Installer ...	154,948 KB	
▼ Last week (1)				
 putty-64bit-0.76-installer.msi	2/17/2022 5:11 PM	Windows Installer ...	3,011 KB	
▼ Earlier this month (4)				

Step 4 : Accept all the defaults by clicking the **Next** button each time.



Step 5 : set the location of jdk installation



Click the **Yes** button to allow the install to continue.



Step 6 : Run the command prompt (terminal) window by searching for CMD and selecting 'Command Prompt'.

```
Command Prompt
Microsoft Windows [Version 10.0.18363.1316]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Tony Mione>java --version
java 17.0.2 2022-01-18 LTS
Java(TM) SE Runtime Environment (build 17.0.2+8-LTS-86)
Java HotSpot(TM) 64-Bit Server VM (build 17.0.2+8-LTS-86, mixed mode, sharing)

C:\Users\Tony Mione>
```

Verify Java is correctly installed by having it print its version number.

C:\Users\Purvi Jardos>**java -version**

java version "17.0.7" 2023-04-18 LTS

Java(TM) SE Runtime Environment (build 17.0.7+8-LTS-224)

Java HotSpot(TM) 64-Bit Server VM (build 17.0.7+8-LTS-224, mixed mode,

- Setting JAVA PATH

Note : Java 17 set the java required path automatically in PATH System Variable

it set following path in System Variable Path permanently

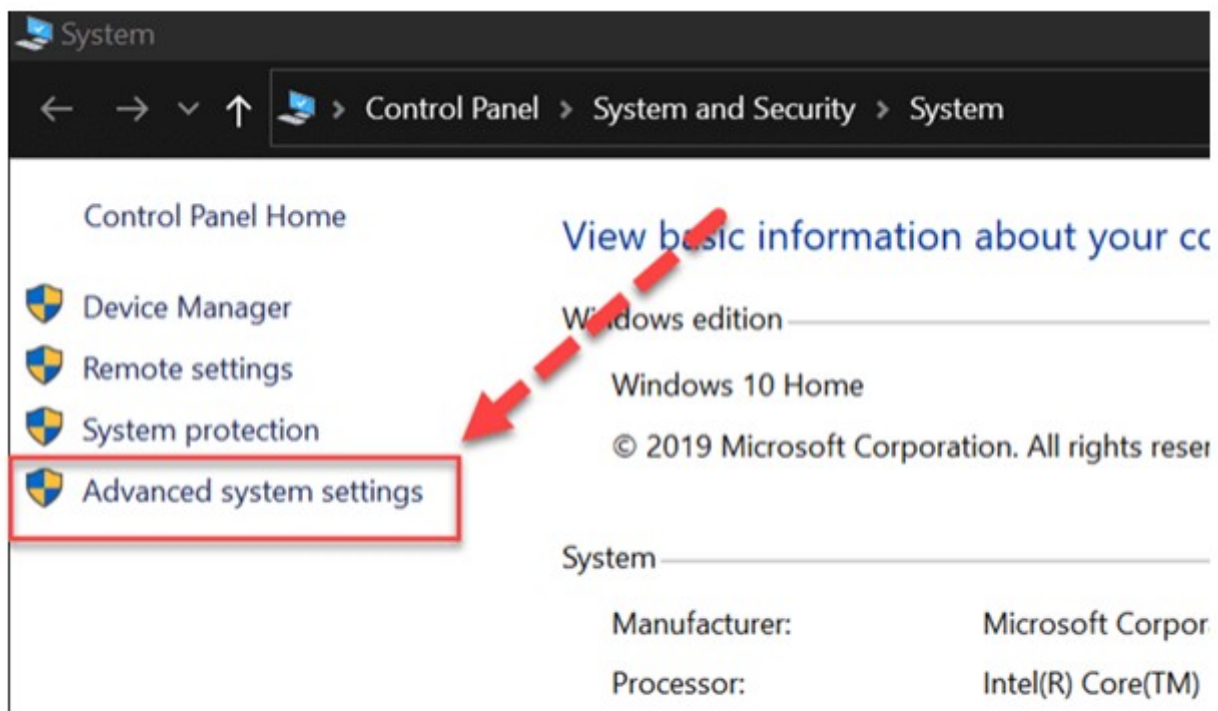
C:\Program Files\Common Files\Oracle\Java\javapath

If you wish to change the path setting then two ways

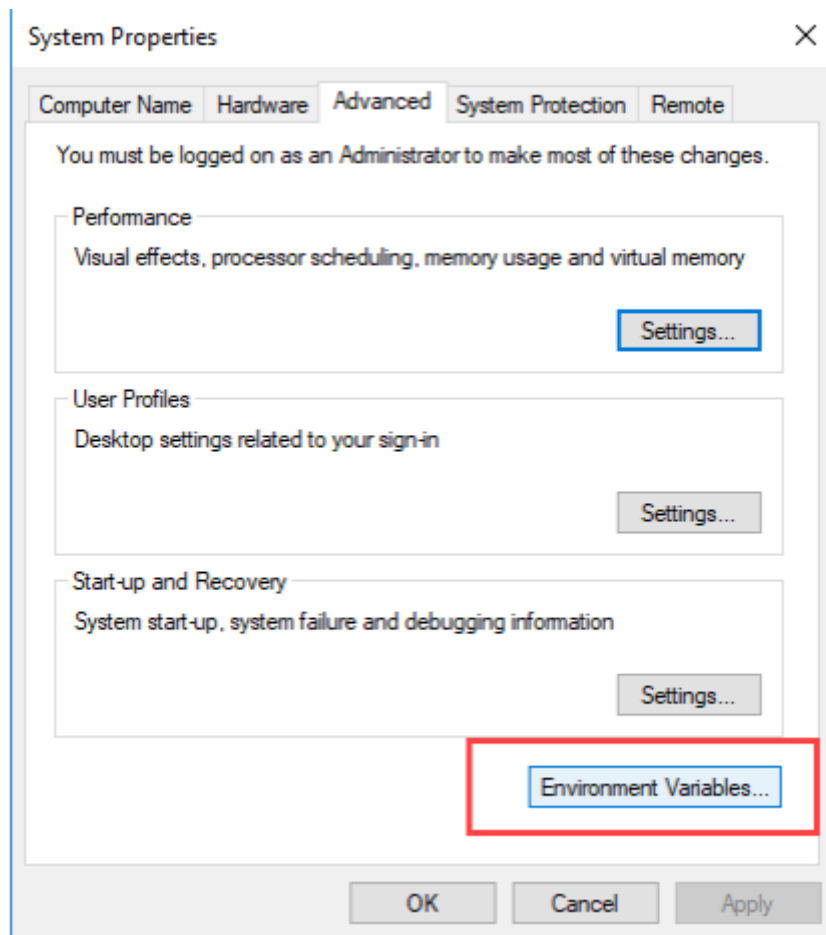
Two ways 1) Temporary 2) Permanent

Temporary : type command set path=C:\Program Files\Java\jdk17.07\bin

Permanent :

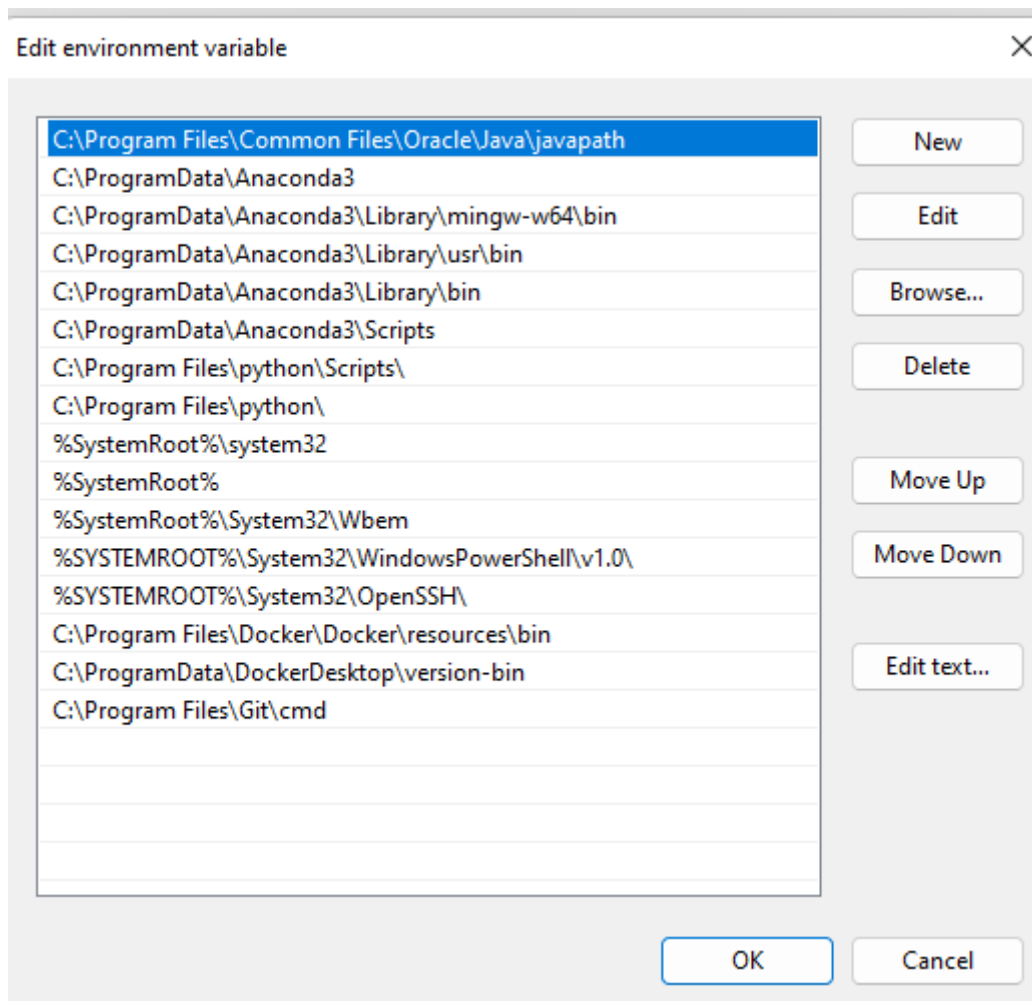


3. Under "System Variables" (the bottom pane), scroll down to select variable "Path" ☐
Click "Edit...".

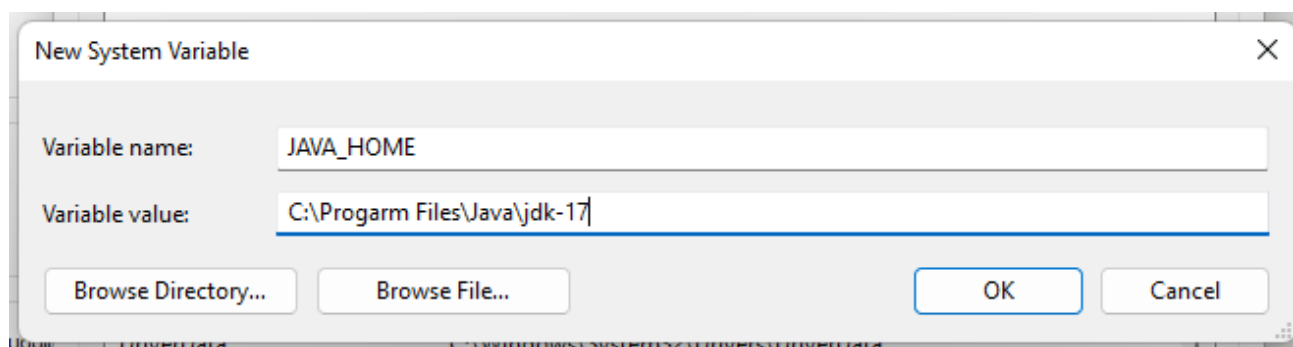


required

Edit the path if it



Setp 7: Set JAVA_HOME varibale.
Click on New button on system Variable



CLASSPATH :

In classpath third party jar files (API) icluded in the program then it can be set the path of jar file as a classpath.

The preferred way to specify the class path is by using the **-cp** command line switch. This allows the CLASSPATH to be set individually for each application without affecting other applications

```
java -cp /path/to/class/files MyProgram
```

Installation of TEXT PAD

Step 1 : download textpad for <https://www.textpad.com/download>

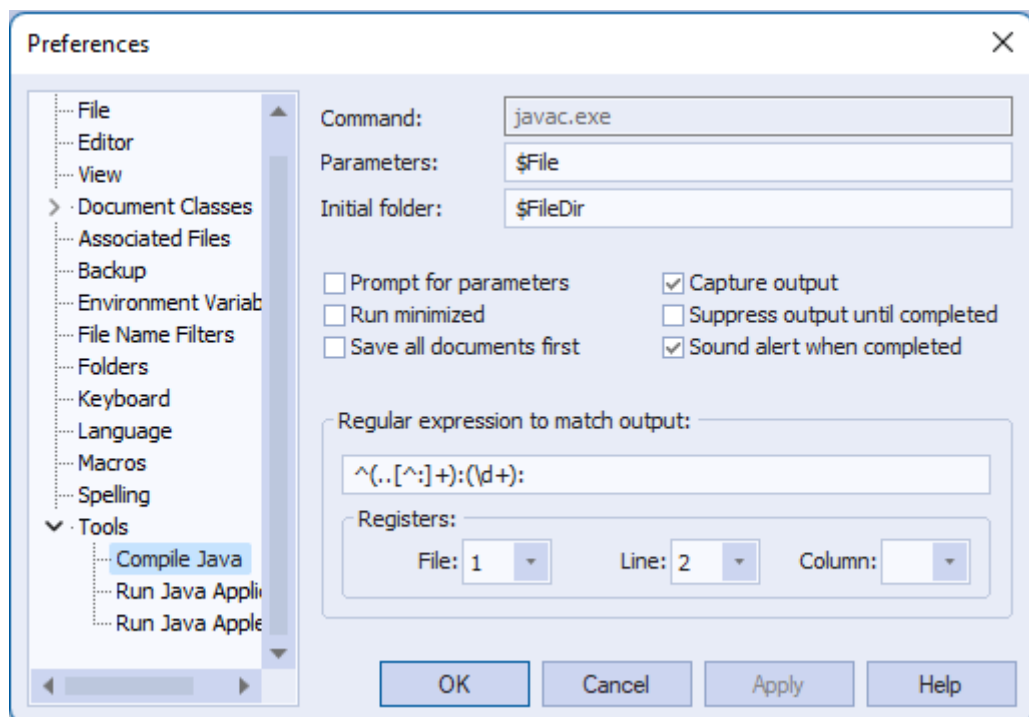
download 64 bit with english language

WildEdit 2.4 (April 27, 2020):				
User Interface	Online Help	Spell Checker	Download	
English	English	N/A	32-bit	64-bit

Step 2 : double click on setup.exe

Step 3 : click on next button and install textpad

Step 4: check the configuration of java commands
select configure→ preference



Test program in Textpad

e.g Write a simple Java program to print “HELLO DDU” on console. Explain the structure of a simple Java program.

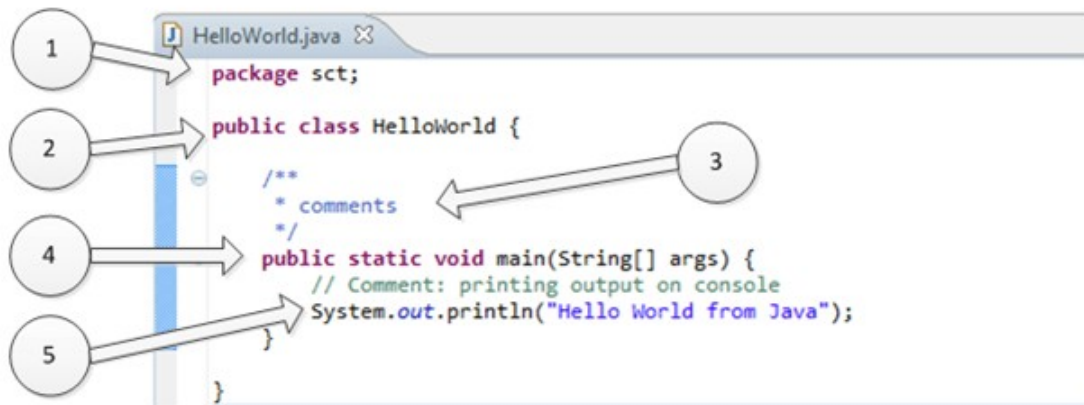
1. Package

It is package declaration statement. The package statement defines a namespace in which classes are stored. The package is used to organize the classes based on functionality

2. “public class HelloWorld”:

a. public: This is access modifier keyword which tells compiler access to class. Various values of access modifiers can be public, protected, private or default (no value).

b. class: This keyword used to declare a class. Name of class (HelloWorld) followed by this keyword.



3 Comments section:

We can write comments in java in two ways.

a. Line comments: It starts with two forward slashes (//) and continues to the end of the current line. Line comments do not require an ending symbol.

b. Block comments start with a forward slash and an asterisk (/*) and end with an asterisk and a forward slash (*/)

4. "public static void main (String [] args)":

a. public: Access Modifier

b. static: static is a reserved keyword which means that a method is accessible and usable even though no objects of the class exist.

c. void: This keyword declares nothing would be returned from the method.

d. String[] args: It stores Java command line arguments and is an array of type java.lang.String class.

- **compile Java Program from command prompt**

Directory path of your program> javac Programname.java

e.g 1 d:\Test\Javac HelloWorld.java

e.g 2 d:\Test\javac Program1.java Program2.java

- **Run Java program from command line**

Directory path of your program> java Programname

e.g 1 d:\Test>java HelloWorld

Run Java program with commandline arguments

e.g [d:\Test](#)>java Helloword mca sem2 name

Excercise:

1. Write the installation steps for jdk

2. why it is requiried to set JDK\bin directory in PATH variable.

3. When classpath is required to set. Give example how to set and compile program with

classpath.

4. Write a java program to print student name and rollnumber.

5 Write a java program to print 1 to 10.

6 Write a java program to pass command line arguments and print the values.