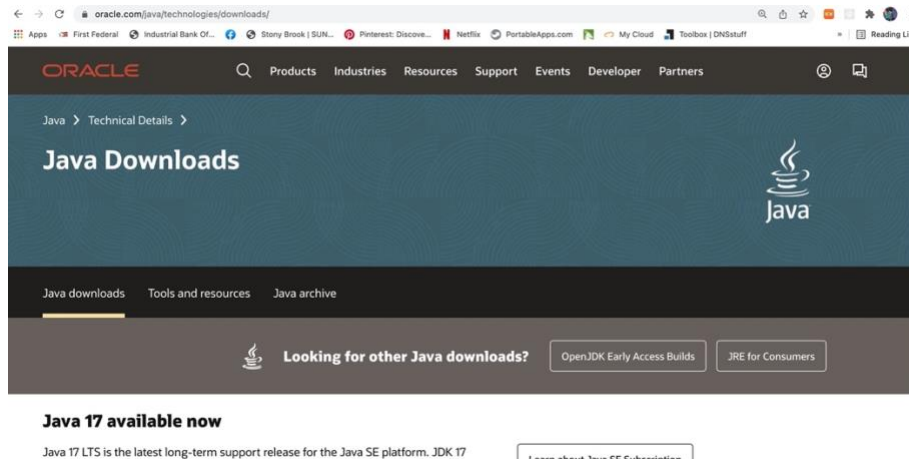


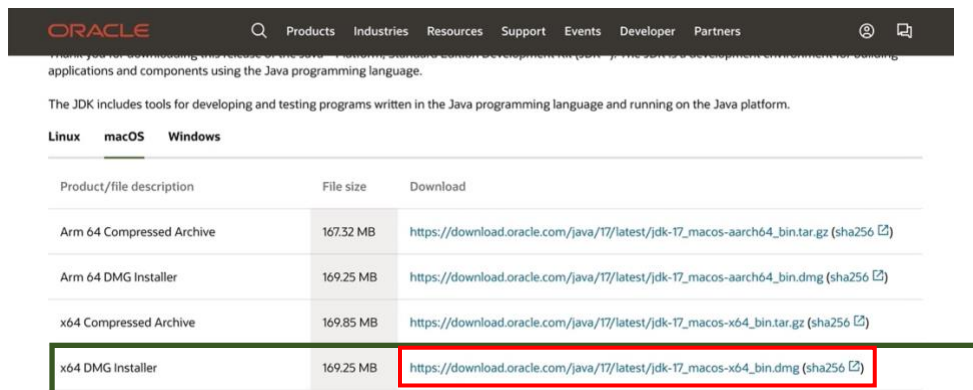
Installing Java 17

Downloading

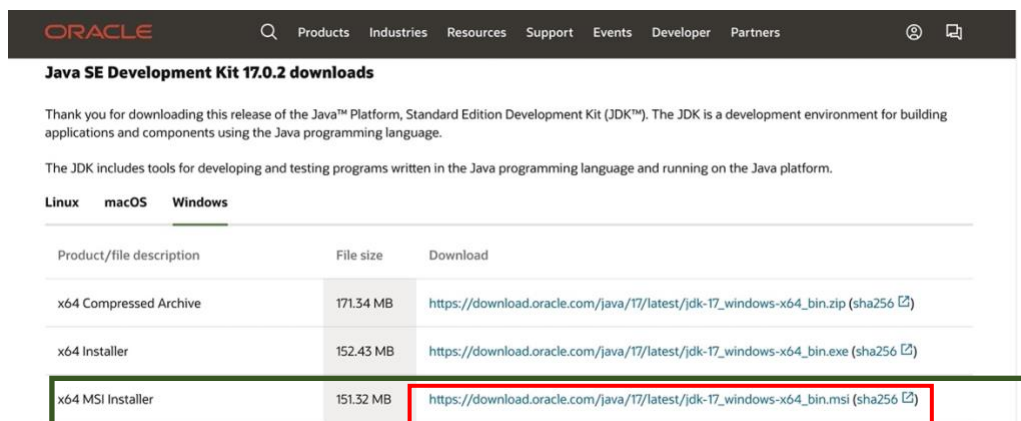
To install the latest version of Java, go to the [download site at Oracle.com](https://www.oracle.com/java/technologies/javase-downloads.html).



Scroll down to *Java SE Development Kit 17.0.2 downloads*. Click on the appropriate platform (Linux, Mac, or Windows).



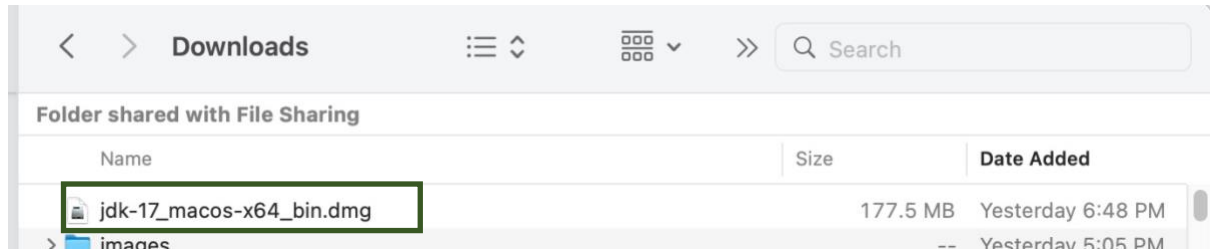
For mac, use the x76 DMG installer. Click the link to download the file.



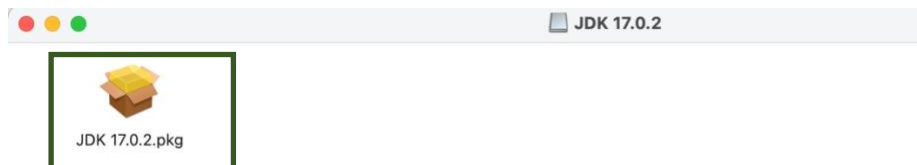
For windows, use the x86 MSI Installer. Click the link to download the file.

Installing on Mac OS

Double click on the DMG file (It is probably in *Downloads* but you can move it elsewhere before installing if you wish.)



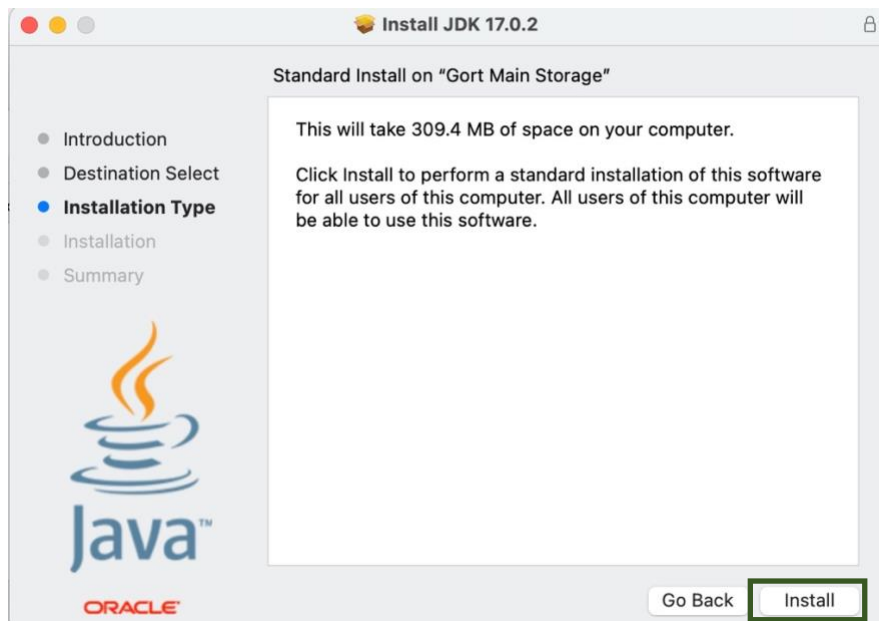
This will open the dmg and show a *pkg* file. **Double click** that icon to start the install.



Click *Continue*.



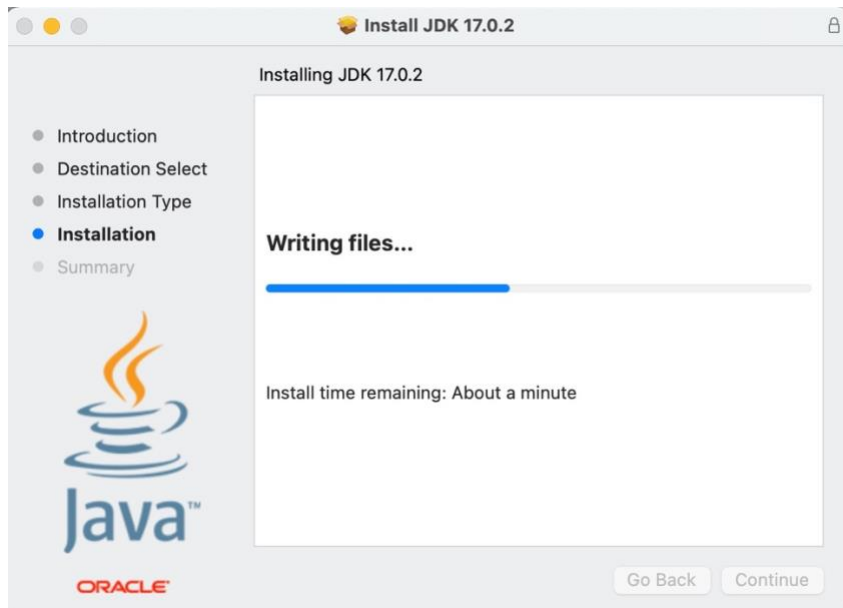
Click *Install*



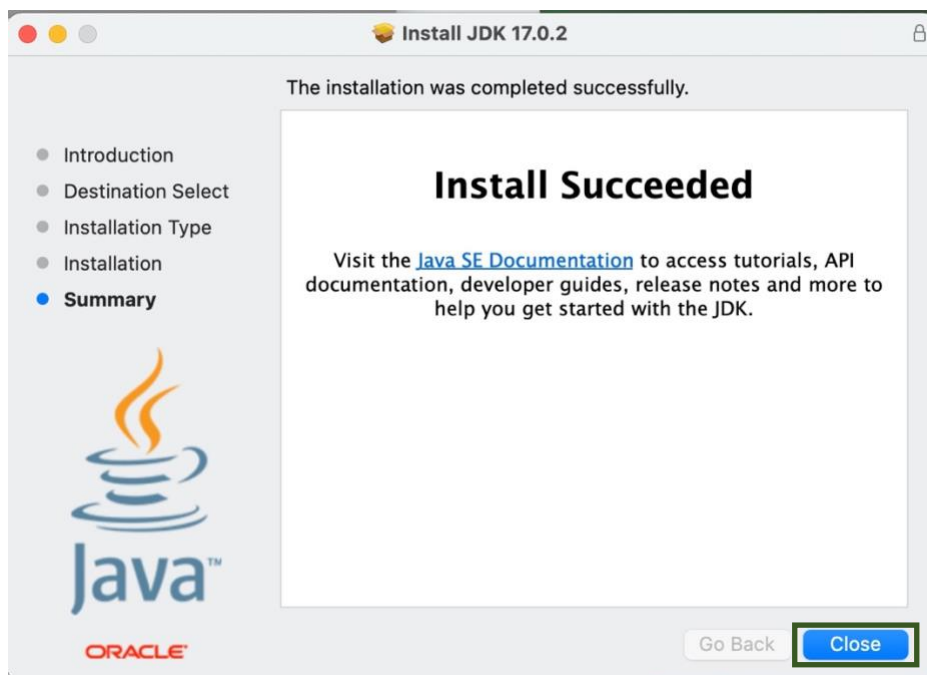
The install procedure will ask for a password (or for a 'touch' if you have a biometric enabled macbook).



Touch the biometric sensor or click 'Use Password' and enter your user account password on the macbook.



It will proceed with install and finally show the following:

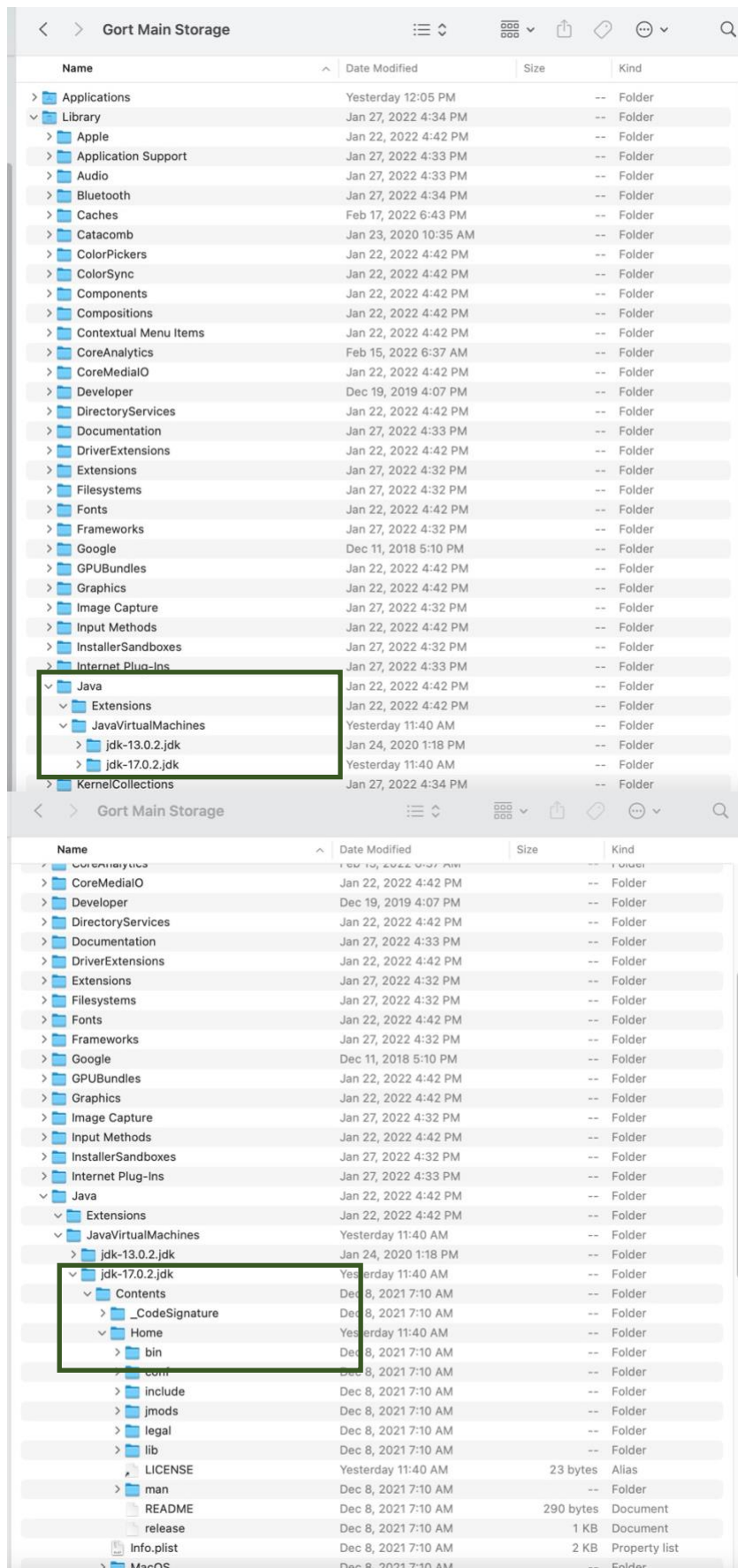


Click the 'Close' button.

Using Java 17 on Mac (Command Line)

The install script will place the JDK in the directory tree at `/Library/java`. You will need to add the correct directory with java binaries to the front of your path variable in the terminal. Note that in these examples, I use the free product XQuartz for my terminal and Unix environment. However, you can do the same thing with the native Mac Terminal.

To open a terminal window, go to launchpad, type 'Terminal' in the search bar and click the Terminal icon.



To look at the value of your PATH variable (this is where the OS searches for programs to run), type:

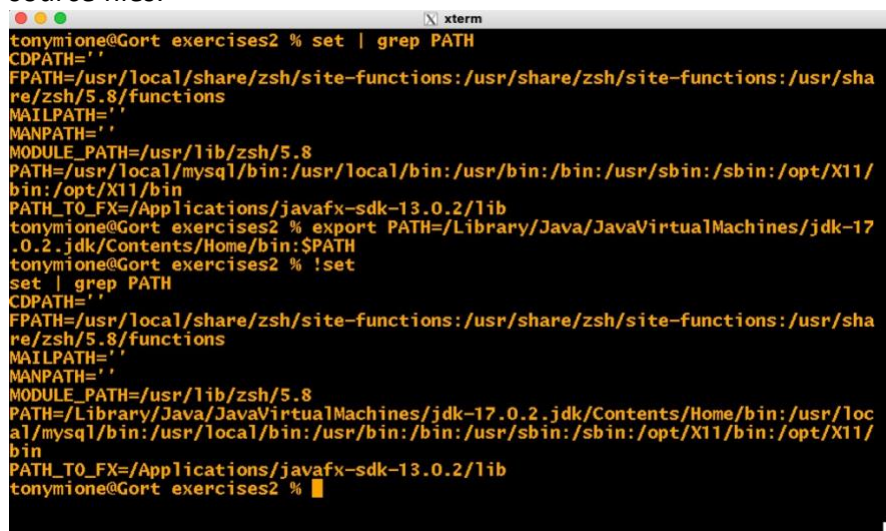
```
set | grep PATH
```

You will modify this by placing the binary directory for the java jdk ahead of the other directories in the path. Use:

```
export PATH=/Library/Java/JavaVirtualMachines/jdk-17.0.2.jdk/Contents/Home/bin:$PATH
```

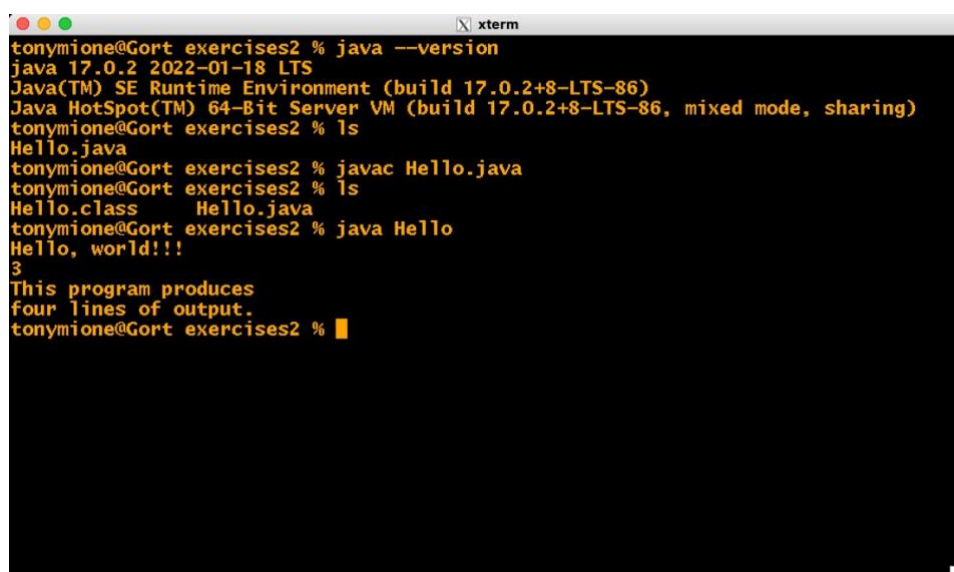
Note that adding the ‘:\$PATH’ at the end is critical or your terminal will not be useable!

Now you should be able to use Java. Connect to a directory where you have your Java source files.



```
tonymione@Gort exercises2 % set | grep PATH
CDPATH=' '
FPATH=/usr/local/share/zsh/site-functions:/usr/share/zsh/site-functions:/usr/share/zsh/5.8/functions
MAILPATH=' '
MANPATH=' '
MODULE_PATH=/usr/lib/zsh/5.8
PATH=/usr/local/mysql/bin:/usr/local/bin:/usr/bin:/bin:/usr/sbin:/sbin:/opt/X11/bin:/opt/X11/bin
PATH_TO_FX=/Applications/javafx-sdk-13.0.2/lib
tonymione@Gort exercises2 % export PATH=/Library/Java/JavaVirtualMachines/jdk-17.0.2.jdk/Contents/Home/bin:$PATH
tonymione@Gort exercises2 % !set
set | grep PATH
CDPATH=' '
FPATH=/usr/local/share/zsh/site-functions:/usr/share/zsh/site-functions:/usr/share/zsh/5.8/functions
MAILPATH=' '
MANPATH=' '
MODULE_PATH=/usr/lib/zsh/5.8
PATH=/Library/Java/JavaVirtualMachines/jdk-17.0.2.jdk/Contents/Home/bin:/usr/local/mysql/bin:/usr/local/bin:/usr/bin:/bin:/usr/sbin:/sbin:/opt/X11/bin:/opt/X11/bin
PATH_TO_FX=/Applications/javafx-sdk-13.0.2/lib
tonymione@Gort exercises2 %
```

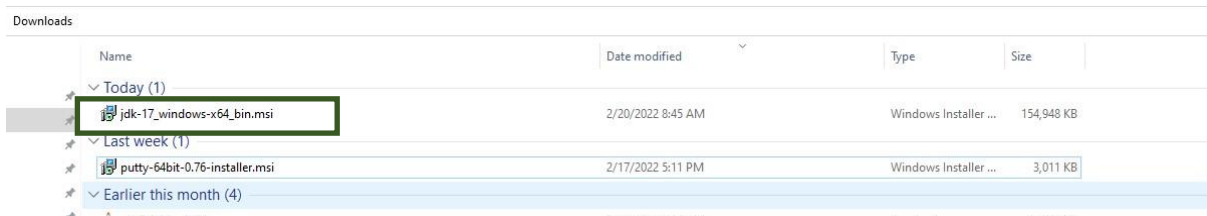
Verify that you are using the correct version by typing ‘java –version’. It should show 17.0.2. Then you can build java programs with the **javac** command and executing them by running the Java runtime environment using the **java** command.



```
tonymione@Gort exercises2 % 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)
tonymione@Gort exercises2 % ls
Hello.java
tonymione@Gort exercises2 % javac Hello.java
tonymione@Gort exercises2 % ls
Hello.class    Hello.java
tonymione@Gort exercises2 % java Hello
Hello, world!!!
3
This program produces
four lines of output.
tonymione@Gort exercises2 %
```

Installing on Windows 10

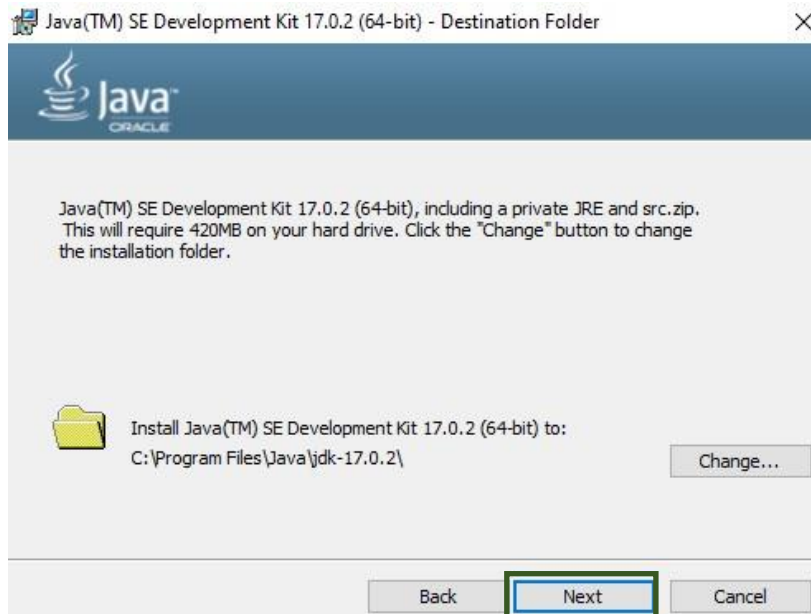
After you download the msi file from the Java download site, it should be in your Downloads folder. You can move it elsewhere if you wish or leave it there. Double click on that file to run it and install Java.



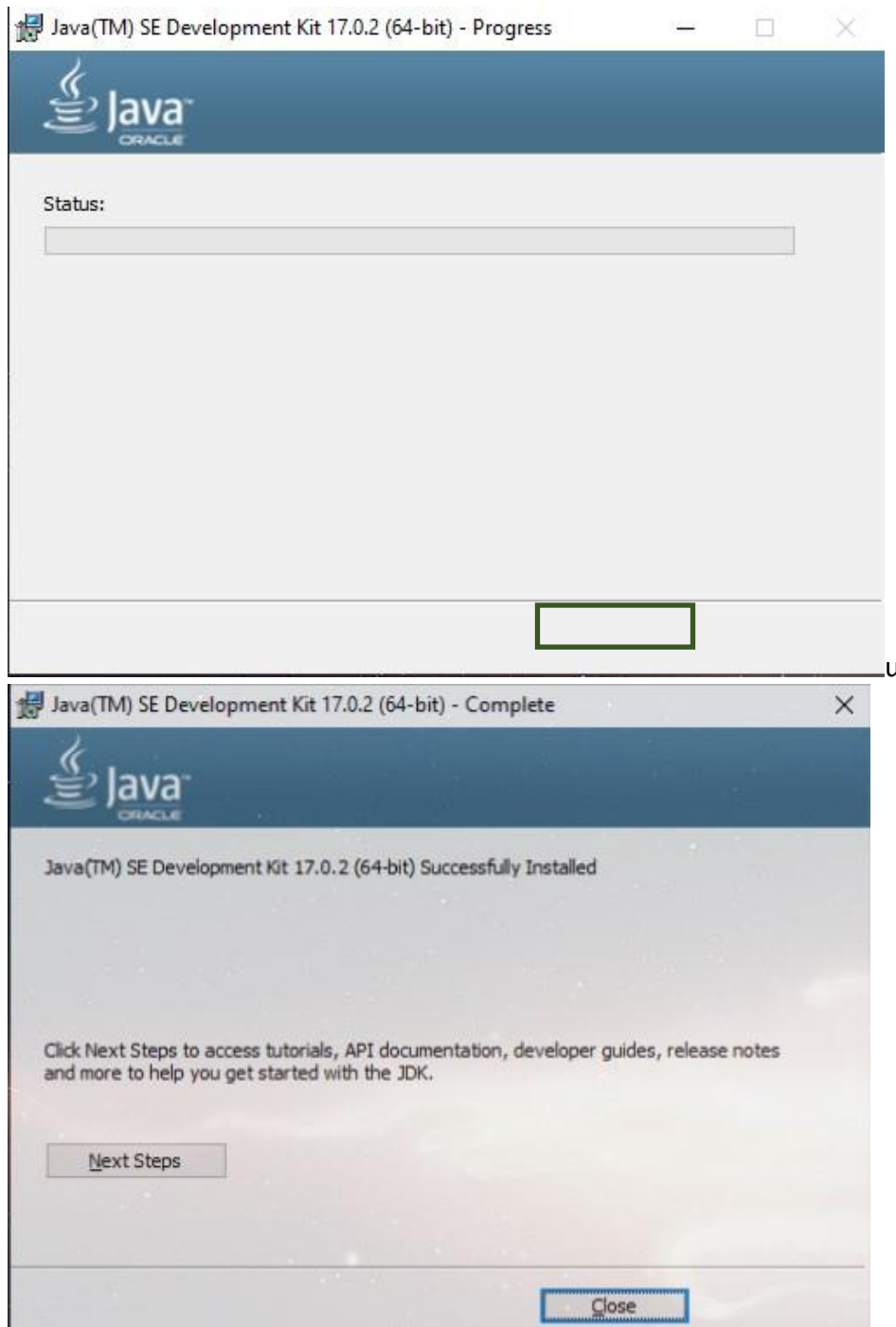
Name	Date modified	Type	Size
Today (1)			
jdk-17_windows-x64_bin.msi	2/20/2022 8:45 AM	Windows Installer ...	154,948 KB
Last week (1)			
putty-64bit-0.76-installer.msi	2/17/2022 5:11 PM	Windows Installer ...	3,011 KB
Earlier this month (4)			

You will be walked through a series of dialog boxes. Accept all the defaults by clicking the **Next** button each time.





At this point, windows may display a dialog asking if you wish to modify system software. Click the **Yes** button to allow the install to continue.



Click the **Close** button to dismiss the final dialog. Java is now installed and should be available at your command prompt.

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

Using Java 17 on Windows 10

```
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.

Type: `java --version`

If it shows version 17.0.2 is installed ,you are ready to build and run programs. Change your default folder to one containing your Java source code.

To build a program, type **javac** and the program name (see below). To execute the generate class file, just type **java** followed by the class name (no .class extension).

```
C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2>dir
Volume in drive C has no label.
Volume Serial Number is 0A98-28B6

Directory of C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2

02/20/2022  09:00 AM  <DIR>          .
02/20/2022  09:00 AM  <DIR>          ..
08/30/2021  08:13 AM           1,163 Hello.java
               1 File(s)          1,163 bytes
               2 Dir(s)    27,481,067,520 bytes free

C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2>javac Hello.java

C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2>dir
Volume in drive C has no label.
Volume Serial Number is 0A98-28B6

Directory of C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2

02/20/2022  09:01 AM  <DIR>          .
02/20/2022  09:01 AM  <DIR>          ..
02/20/2022  09:01 AM           525 Hello.class
08/30/2021  08:13 AM           1,163 Hello.java
               2 File(s)          1,688 bytes
               2 Dir(s)    27,481,120,768 bytes free

C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2>java Hello
Hello, world!!!
3
This program produces
four lines of output.

C:\Users\Tony Mione\SUNY\0_SUNY_CSE114\exercises2>
```