

## CS 225: Java, Eclipse, and Command Prompts (Assuming Windows machine)

It is not required, but is definitely helpful, for you to have Java installed on your personal machine. If you have a laptop, bring it to class, as we will practice the skills being presented in class. Even if you can't bring a laptop to class you should have Java and Eclipse (or your favorite development tool) on your personal computer.

**Command Prompt:** The command prompt is used to perform commands without using Windows. In Windows you click on objects and buttons to control the computer. In the command window you type commands to control the computer. This section will give you the basic commands you will need for CS 225. Open the command window by typing "cmd" in the search bar on your Windows computer.

Once the command window is open, the following commands – and many more! – can be performed.

Command	Effect
help	Provides a list of help topics, each of which can be displayed using "help <topic>"
dir	directory command: Lists all folders and files in the current directory, with file size and date of creation. The "*" acts as a wildcard character. dir HelloWorld.java: lists only the HelloWorld.java file dir *.java: lists all of the files ending in ".java" dir H*: lists all files starting with the letter H
cd	Change directory command: Changes the current directory. cd ..: moves up one level in the directory structure. cd C:\\: changes the directory to the top level C directory. cd C:\\afolder\\asubfolder: Changes the current directory to the one given. cd subfolder: changes the current directory to the subfolder assuming the subfolder resides in the folder you are in when giving the command. cd ../subfolder: changes the directory by going up one level, then down into the subfolder.
md	Makes a new folder. md newfoldername makes a new folder in the current directory.
rm	Removes a folder
ren	Renames a file, or multiple files if the wildcard is used. Be careful!
del	Deletes a file, or multiple files if a wildcard is used. Be careful!
exit	Exits the command window.

**Downloading Java:** You can download Java at the following link (or just Google "Java download"):

<https://java.com/en/download/>

You want the Java SDK (Software Development Kit), which contains the Java Runtime Environment (JRE) plus the Java compiler. Remember where you put the Java SDK as you are installing it. Don't just hang it off of the default download folder. For example, my javac.exe file is in the following directory:

C:\Program Files\Java\jdk1.8.0\_141.

Once you have downloaded and installed Java, open up the command prompt. Type “java” -- which is the command to run Java programs in the JRE. If the system accepts this command, then you will see about a page and a half of text starting with “Usage: java [-options] ....” If java is not a known command, you will see a much shorter message, basically saying “java is not a known command.” Type “javac” – which is the command to run the Java compiler. Again, if successful, then you will get a lot of text, and if not successful you will get a short informational message.

If a command did not work, you have a path issue. The computer needs to know the directory path to get to the command being run. Surely you remember where you put the Java SDK, right? Find the java.exe and javac.exe files on your computer. My javac.exe file is in the following directory: C:\Program Files\Java\jdk1.8.0\_141\bin.

You’ll want to make sure you have the correct path before doing anything else. Try typing the command using the full path. For me, the command is “C:\Progra~1\Java\jdk1.8.0\_141\bin\javac” (The “Progra~1” is an historical aberration of Windows, which was built assuming folder names of eight characters or less with no spaces.). If this works, you can set the Path environment to search in that directory. There are many ways to do this, so I suggest searching for your specific computer, or getting help from students in LB 370. Do the same for both the “java” and “javac” commands. Once those are working you’re ready to write, compile, and execute Java programs. You can write files using Notepad (or other text editor), save the files as <classname>.java, compile them using “javac <classname>.java,” and run them using “java <classname>.”

You want a working Java SDK as soon as possible, as we will use it in class.

**Installing Eclipse:** Even though you can now create Java programs, most developers will use an Integrated Development Environment (IDE) to more easily manage larger projects. The IDE used in CS 225 is Eclipse. You can download Eclipse at the following link (or just Google “Eclipse download”):

<http://www.eclipse.org/downloads/eclipse-packages/>

you have to download and then install Eclipse. Take a moment to decide where you want Eclipse to reside on your machine. For example, keeping it in the default download folder is probably not the best organization. I put my version directly off the C:\ folder (C:\\Eclipse). Once Eclipse is installed, run the tutorials to ensure that it is working. It is not expected that you have Eclipse working at this time. The first lab will help you to complete your installation. If it is working, take advantage of the tutorials.