Java on Windows XP for CA166

This is a brief guide to using Java on Windows XP in the School of Computing.

Logging on

1. Log on to any of the School's machines using the username and password you have been given.

Folders, files, and editing

1. Your personal file space is located in a folder on "drive H". You can access it by double-clicking the desktop folder called "MyComputer", and then double-clicking on the icon with the H label. Look under "Network Drives". (If you don't see the H label, left-click on View in the title bar of folder MyComputer, and then left-click on "Details" in the menu that appears.)

2. Make a folder for your Java programs (called "MyJava", say). To do this, on the title bar of H:\, select File:New:Folder. Your folder will be given a default name such as "New Folder"; change this to "MyJava", say (see below for changing names).

3. If you click on the Start button in the bottom left-hand corner you will get access to various programs. For writing programs, you will need to use an editor such as Notepad (but not WORD). If you cannot find Notepad (or similar) ask someone to show you. It is better to use an editor designed for editing programs. One such is EditPlus. It is available at Programs: Tools&Utilities: EditPlus.

4. [You can probably skip this part.]
   Your programs will use a Java component called Console.java. This is made available to your program automatically, but if you get an error message that the Console class was not found, then here is what you should do. Copy Console.java into your MyJava folder. To do this, first open page http://www.compapp.dcu.ie/~jmorris/ca166/ using a browser such as Internet Explorer or Firefox. Right-click on "Console Class" and left-click on either "Save Target As ..." or "Save Link As ..." (depending on which browser you use).

5. If you sometimes can't see a file in Myfolder that you expect should be there, it is probably because the folder was opened before the file was created. In that case, just close MyWindow and re-open it, or simply select View:Refresh from the title bar.

6. If you cannot see the suffixes (such as .java or .txt) in your file names, select Tools: Folder Options: View and unclick the "Hide extensions ..." box.

Changing file and folder names

To change the name of an icon (or just a part of it such as the suffix), click on its icon once, pause until it is highlighted, and then click on the name once (pause between the clicks or the file will open). You can then edit the name (just type and use backspace to erase).

File suffixes

Some software will insist on saving or downloading a file with a name ending in a certain suffix (such as .txt or .doc). This may not be the suffix you want, or you may not want any suffix at all. In that case, just change the name after the file has been saved or downloaded. See above.

Compiling and running Java in a command window

1. Java programs are run in a command window. To open a command window, double-click on the CA166 icon on your desktop, or select it in the Start menu under Programs: Programming & Development: JDK5: Java Shell. You will see a prompt that ends in H:\> (if you don't, type H: followed by the return key). To get a list of your folders and files type

   dir (followed by a press of the return key).

   You should see a list of the files and folders on your H drive, including MyJava. Select MyJava as the working directory by typing the command

   cd MyJava

   If you again type the command dir you should see a list of the files in MyJava (currently just Console.java).

2. For an exercise in making a program, using an editor type in the program

```
class Hello {
     public static void main(string args[]) {
          System.out.println(''Hello'');
     }
}
```

   Save the program under the name Hello.java in folder MyJava.

3. To compile a Java program that you have already created (say Hello.java), type the command

   javac Hello.java.

where the cursor is positioned after H:\> in the command window. (If you again type the command dir you should now also see the compiled program as a file called Hello.class.) If you see any errors reported fix them by changing the text of your program using the editor. For practice, omit the n in println and compile again; then fix the error and compile once more.

4. When your program compiles without errors you can run it by typing (assuming the program is called Hello.java)

    java Hello

    where the cursor is positioned after H:\> in the command window.

5. Your program will often have errors in it that don't show up until you try to run it. In that case, you have to figure out the error and fix it by changing the Java code.

6. Sometimes your program will have an error that causes it to fail to terminate – the command prompt (H:\>) doesn't reappear. If that happens, you can force termination by typing ctrl-C (i.e. type C while holding down the Ctrl key).

Copying and pasting from Word

When you cut and paste from a Word document (such as lecture notes), you may find that the quote and double-quote characters don't copy correctly (Word sometimes puts in fancy quote marks). In that case, you will have to insert the quote marks by hand before compiling the program.

Copying and pasting from a command window

You can copy and paste from a command window as described below. This can be useful in getting a copy of compiler error messages, for example.

(i) Right-click on the title bar, and left-click on Edit:Mark.
(ii) Drag the cursor over the text you want to copy; it will be highlighted.
(iii) Right-click on the title bar, and left-click on Edit:Copy.
(iv) Paste into a document in the normal way.

Increasing the visible lines in a command window.

You can increase the number of lines in a command window. It is sometimes necessary to do this to see large amounts of output (when there are a lot of error messages, for example.) To set the number of lines:

(i) Right-click on the title bar, and left-click on Properties.
(ii) Select the Layout tab.
(iii) Set Screen Buffer Size: Height to your preferred number of lines.
(iv) Click OK.

Essential Documentation

1. There are many free Java resources on the Web; find some using Google. In particular, look at the Java tutorial at http://java.sun.com/docs/books/tutorial/.

2. All non-trivial Java programming requires use of the Java library. The standard on-line reference is at http://java.sun.com/javase/6/docs/api/.