

During the first part of the course, we will be using the command line to call an editor, invoke the Java compiler, and run the Java bytecode. So, we need to setup these features.

First, we will create three icons on your desktop that every power user should have:

- Computer icon
- Notepad icon
- Command icon

Then, we will download a better editor and the Java software. Finally, we will set up and test our programming environment.

**Task 1. (Computer icon)** The Computer icon allows easy access to the file system and remote devices. It accesses Windows Explorer, a program which navigates the Windows file system. We need to turn this on.

On Windows 7, right-click the desktop, go to Personalize, and then Change desktop icons. Make sure that Computer, Control Panel, and Recycle Bin are checked. In Windows 10, traverse Personalize/Themes/Desktop Icons; the system will name the icon “This PC”, but you can change it to “Computer” for consistency.

Open the Computer icon. You should see “OS (C:)”, or “Windows (C:)”, or something similar. This is your C: drive, which is the root of the main part of you file system.

Windows uses file extensions to know how to launch programs; it is essential that we know the extension of a file, but often Windows hides them. We need to fix this. In Windows 7, open Windows Explorer/Tools/Folder Options/View, and uncheck “Hide extensions of known file types”. In Windows 10, go to Windows Explorer/View, and check “File name extensions”.

**Task 2. (Notepad Icon)** Notepad is a very simple all-purpose text editor which comes with Windows. To create the Notepad icon, right-click on the desktop, go to New/Shortcut, type Notepad. It will find the program `notepad.exe`. Change the name to of the icon to “Notepad”.

**Task 3. (Command Icon)** The command line processor allows for direct manipulation of the operating system; you want to know how to use it. To create the Command icon, right-click on the desktop, go to New/Shortcut, type “cmd”. It will find the program `cmd.exe`. Change the name of the icon to “Command”. This is alternatively known as the “DOS Prompt”.

This creates the icon, now we want to improve it.

Right-click on the Command icon.

Change Target: to `C:\Windows\System32\cmd.exe /OGNE`. (This makes the files list in the correct order.)

Change Start in: to `C:\`.

Push OK.

Double-click on the Command icon. Right-click on the title bar. Change the font and colors to your liking. I use  $8 \times 12$  Raster Fonts, and Green on Black colors.

**Task 4. (Command Line)** Every programmer has a quick link to the command line, and uses it. For historical reasons, the Windows command prompt is often known as a DOS prompt.

- (a) Create a DOS icon on your desktop.
- (b) Double click on the DOS icon to open a command prompt window. Right click on the header of this window to modify the colors and font to your liking.
- (c) Explore the standard DOS commands. The main ones are:

HELP	Displays a list of the DOS commands.
DIR	Displays a list of files in the current directory.
CD	Displays the current directory.
CD <directory>	Change Directory (CD .. means "up")
MD <directory>	Make Directory
RD <directory>	Removes a directory
DEL <filename>	Deletes a file
TYPE <filename>	Outputs the contents of a text file
REN <from> <to>	Rename a file
COPY <from> <to>	Copies one or more files
PATH	Displays the current path
SET	Displays the contents of the environment
SET <var>=<value>	Sets a variable in the environment

In addition to DOS commands, you can type the name of an executable file or batch file at the DOS prompt.

- (d) Explore redirection and piping.

>	Redirects output
<	Redirects input
	Pipes IO from one program to another

Examples:

DIR > TEST.TXT	Traps the directory list in the text file TEST.TXT
SET   MORE	Pipes the environment list through the MORE.EXE program

- (e) Understand how Windows (or DOS) launches a program or file (extensions, directories, paths, etc).