

Computer Science 2211A: Assignment 1

1. The required definitions are listed below:
 - a. An ***operating system*** is an essential software in a computer that handles all interactions between the computer hardware and programs running on that computer.
 - b. The ***kernel*** of an operating system is a core program that directly interacts with computer hardware via system calls on behalf of the shell (in command line-based OS) or the GUI. It is the first program that is loaded into memory upon system booting.
 - c. A ***shell*** in UNIX is a command-line program that interacts with a user to execute programs and send requests to the kernel upon the need to access computer hardware. There can be multiple shells in UNIX to serve the needs of multiple users.
2. The commands are shown below using a different font:
 - a. `mkdir PATH/DIRECTORYNAME`
PATH must be the absolute path of an existing directory. By default, if omitted, the directory is made in the current working directory. If no path is specified, the forward slash '/' must be omitted. DIRECTORYNAME is the name of the directory to make.
 - b. `touch PATH/FILENAME`
The requirements of PATH and the forward slash '/' are the same as above. FILENAME is the name of the file to make.
3. The `alias` command on `ls` has been used, and the `script` command has been activated.
 - a. `ls -l`
 - b. `ls -dl di*`
 - c. The command results in listing all files and directories in `asn1` as well as their contents. `*` is a wildcard standing for 'any character'. Hence all files (excluding hidden ones) will show. The contents of the directories show because the `-d` option has not been used.
 - d. The command results in listing the files in ASCII collating sequence order for every '`*`' argument, i.e. twice in this case. This happens because the shell evaluates the command `ls` with each argument one at a time, then produces a single output list.
4. Note that the current working directory is now `~/Tmp/CS2211a`.
 - a. `find . -type d -print`
 - b. `find . -name "d*" ! -type d -print`
 - c. `find . -atime -2 -print`