Lab # 02

BASIC UNIX COMMANDS

1. Some Basic UNIX Commands

i. FILE COMMANDS

touch Create a new file.

Usage: touch <filename>

Usage:

cp Copy files.

Usage: cp [options] <source-filename> <destination-filename>
cp [options] <source-filepath > <destination filepath>

mv Move or Rename files or directories.

Usage: mv [options] <old-filepath> <new-filepath>
mv [options] <old-filename> <new-filename>

Options: -i query user for confirmation.

rm Remove files.

Usage: rm [options] <filname>

-i query user for confirmation.

cat View complete file content.

cat <filename>

more View file contents in sections determined by the size of the terminal.

Usage: more <filename>

less View file contents in sections determined by the size of the terminal.

Has more options and search features than more.
Usage: less [options] <filename>

ii. DIRECTORY COMMANDS

cd Change directory.

Usage: cd <filename>

Eg: cd my-directory
cd go to home directory
cd .. go up one directory

pwd Print working directory on the terminal.
ls List the content of a directory.

Usage: ls [options] or ls [options] <directory-path>
Options: -l list all files in long format.
(permissions, users, filesize,date, and time are displayed).
-a list all files including those beginning with a "."
-F list files distinguishing
directories/ executables* symbolic links@

mkdir Create a new directory.

Usage: mkdir <directory-path>

rmdir Remove a directory if its empty.

Usage: rmdir <directory-path>

rm -rf directory_name will remove non empty directory

iii. TERMINAL COMMANDS

clear Clears the terminal.

echo: Write a string to standard output. Usage: echo "string" or

echo 'string'

iv. HELP COMMANDS

man Displays the manual page for the selected command.

Usage: man <command-name>

help Opens the default web browser in the andrew unix help web site.

http://polaris.andrew.cmu.edu/help/sys=sun4_55/env=gamma/Top-

v. INFORMATION COMMANDS

history Lists the commands typed during the session.

Options: -r displays the list in reverse.

hostname Displays the computer's or server's name on the terminal.

who Displays who is on the system.

who am i Displays the invoking user.

wc Counts and displays the number of lines, words and characters of a file.
Usage: wc [options] <filename>
Options: - c count character only.
-l count lines only.
-w count words only.

date Exercise >> to be completed by students.

cal Exercise >> to be completed by students.

whatis Displays the command description.

Usage: whatis <command>

whereis Exercise >> to be completed by students.

which Exercise >> to be completed by students.

id Displays the user id and the group id of the invoking user.

tty Displays user's terminal name.

vi. USEFUL CSHELL SYMBOLS

| Pipe the output of a command to be processed by another command.
Usage: command1 |command2
Eg: ls -l | more

> Redirect output..... to file (overwrite).
Usage: command > filename
Eg: wc filename > new-file

>>	Append (the result of the command) to the end of the file.
	Usage: command >> file-name
	Eg: pwd >> existing-file
<	Take the input for the command from a file.
	Usage: command1 < filename.
&	Run process in the background so that the shell remains active.
	Usage: program-name &
	program-name filename &
;	Separate commands on the same line.
	Usage: command1 ; command2
	Eg: pwd ; ls
!	The history commands.
	!! Redo last command.
	!str Redo the last command that starts with str.
	!23 Redo the 23rd command.
	!-2 Redo the (last command -2)
^	Quick modifier for the last command.
	Usage: ^mistake^correction.
&&	The logical and symbol : execute first command then if successful,
	the second command.
	Usage: <command1> && <command2>
||	The OR symbol : executes the first command or, if it fails, the second
	command.
	Usage: <command1> || <command2>
./	Runs a compiled program.
	Usage: ./ program-name

vii. PERMISSIONS AND FILE STORAGE (UNIX)

passwd	Change the password.
df	Displays the amount of free and used disk space.
du	Displays the amount of disk usage.

viii. PROCESSES

ps Displays the active processes.
Includes the process number, process name and process time.
Options: -a

kill Terminates a process.

Usage: kill [options] <process-number>
Options: -9 absolute kill.

ix. UNIX FILTERS

fgrep A variation of grep that maches a text-string and does-not support

regular expressions. (details in coming lab)
Eg: fgrep <string> <file-name>

spell Exercise >> to be completed by students

sort Exercise >> to be completed by students

head Exercise >> to be completed by students

tail Exercise >> to be completed by students

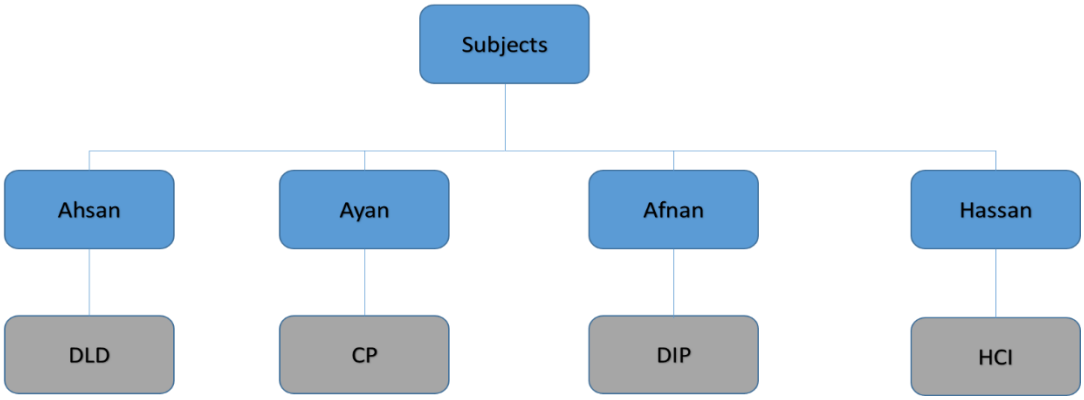
find Search the system for filenames.

Usage: find <pathname> <condition>
Eg: find /home/hoda -name seed

split Splits a file into several files of equal length.

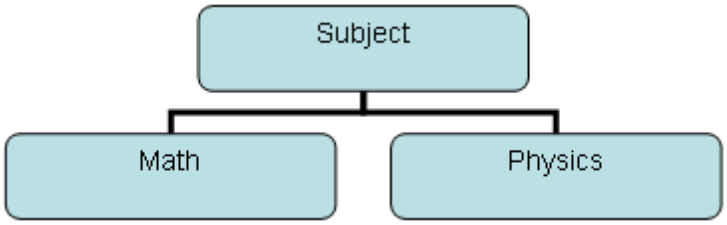
Usage: split [options] <filename> <outfile>.
Options: -n specifies the number of lines per file.

Exercise 1

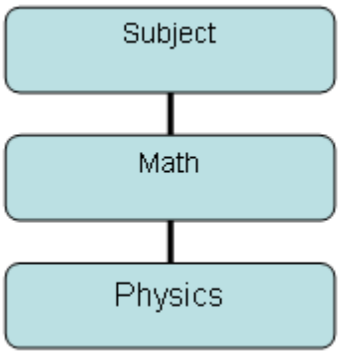


I. The boxes in blue are directories. The boxes in gray are _files. Each _files should contain a random mark of your liking. Once done, delete all the _files/directories that you have created.
II. Count the total number of commands you entered to do this job. I managed using 6 commands.

Exercise 2



i. How are we going to change it using the _mv_ command so that we get the directory tree as below?



ii. Change your directory so that your current directory is _Physics_.
iii. From here, change your directory in only one command such that your current directory becomes _subject. From _subject_, issue only one command such that the directory _physics_ is deleted.