

UNIX Cheatsheet

This document is **NOWHERE NEAR COMPREHENSIVE**. To learn more, visit Dr. Spielman's website and see "Resources"!

Directory

- A *folder* on your computer which contains files. UNIX filesystems are organized as hierarchical directories.
- Forward slashes divide levels in the nested hierarchy of directories, e.g. `/top_level_directory/second_level_directory`
- The directory at the top of this hierarchy is called the **root** directory and is denoted simply as `/`.

Path

- The *address* to a directory or file on your computer. There are, generally, two types of paths:
 - **Absolute/full path** represents the path of a given directory/file beginning at the root directory.
 - **Relative path** represents the path of a given directory/file relative to the working/current directory.
- Your **home directory** is the top-level of *your account* (`<>` signifies PLACEHOLDER text):
 - **Mac:** `/Users/<yourusername>/` (for me, `/Users/spielman/`)
 - **PC:** `C:\Users\<yourusername>\` <- NOT UNIX!!
 - **Rstudio Cloud Project:** `/cloud/project/`
 - **Linux:** `/home/<yourusername>/`

Basic UNIX commands

Command	Description	Examples
<code>cd</code>	Change directory	<pre>cd Desktop cd .. # one directory back cd # shortcut to go home cd ~ # shortcut to go home</pre>
<code>ls</code>	List files and directories in current directory.	<pre>ls ls -l # display long ls -a # show hidden files ls *Rmd # list all files that end with "Rmd"</pre>
<code>pwd</code>	Display the path of the current directory (aka print working directory)	<code>pwd # yup that's it!</code>
<code>rm</code>	Remove a file or directory (use <code>rm -r</code>). Warning: This is PERMANENT!	<pre>rm file_I_dont_need.txt rm -r directory_I_dont_need/</pre>
<code>cp</code>	Copy a file or directory (<i>original file unchanged</i>)	<pre>cp oldfile.txt newfile.txt cp oldfile.txt .. # make a copy of the file to live one directory up</pre>
<code>mv</code>	Move or rename a file or directory (<i>original file is changed</i> - like "cut" aka <code>ctl+X</code>)	<pre>cp oldfile.txt newfile.txt cp oldfile.txt .. # MOVE the file to live one directory up</pre>
<code>mkdir</code>	Create a new directory (aka make directory)	<code>mkdir new_directory</code>
<code>touch</code>	Create an empty file.	<code>touch new_blank_file.txt</code>
<code>cat</code>	Display contents of a file (aka concatenate . this command can do more than this FYI)	<code>cat file_whose_contents_i_want_to_see.txt</code>
<code>head</code> and <code>tail</code>	Display the first or last 10 lines of a file.	<code>head file_whose_contents_i_want_to_see.txt</code>
<code>man</code>	Display documentation about a command (aka manual). These are not well-written. You have been warned. <i>To exit just press q</i>	<code>man ls # look up how to use ls</code>
<code>clear</code>	Clear screen (simply scroll up for past commands). Can also use <code>Ctrl + L</code>	<code>clear # yup that's it!</code>
<code>history</code>	View history of recent past commands	<code>history # yup that's it!</code>

Shortcuts and symbols

Shortcut/symbol	Description
<code>Ctrl + C</code>	Kills current process/command
<code>*</code>	wildcard character
<code>tab</code> (tab key)	autocomplete word
<code>↑</code> (up arrow)	scroll back through previous commands
<code>.</code>	Current directory
<code>..</code>	One directory level up
<code>~</code>	Home directory