

UNIX COMMANDS:

Commands	Description
<	Direct input from a file to a command e.g. <code>wc < input.txt</code>
>	Direct output from a command to a file e.g. <code>ls > output.txt</code>
>>	Append output from a command to a file e.g. <code>date >> output.txt</code>
	Redirect (pipe) the standard output of one command to the standard input of another e.g. <code>echo hello world tr "a-z" "A-Z"</code> - sends the output of the echo command to the tr command for translation to uppercase
;	Combine commands e.g. <code>echo hello world ; cal</code>
\	Escape the following special character e.g. <code>echo Prompt\></code> - prints out Prompt>

./	Execute a script in the current directory e.g. <code>./myscript.sh</code>
..	Parent directory e.g. <code>cd ..</code> - change to parent directory
~	Alias for the home directory e.g. <code>cd ~</code> - change to home directory
&	Run command line in the background
^C	(Ctrl + C) kills a running process
^Z	(Ctrl + Z) suspend a running process
bunzip2	Uncompress a file from zip format e.g. <code>bunzip2 input.txt.bz2</code>
bzip2	Compress a file to zip format e.g. <code>bzip2 input.txt</code>
cat	Display the text content of one or more files in consecutive order as one document (can be used to combine files) e.g. <code>cat input1.txt input2.txt</code>

<p>cd</p>	<p>Change working directory</p> <p>e.g.</p> <pre>cd /usr/bin/</pre>																											
<p>chmod</p>	<p>Change access permission of a file or director for the User, Group, and Other users. The numerical code for changing permission.</p> <table border="1" data-bbox="649 562 1185 1039"> <thead> <tr> <th>#</th> <th>Permission</th> <th>rwX</th> </tr> </thead> <tbody> <tr> <td>7</td> <td>Full</td> <td>111</td> </tr> <tr> <td>6</td> <td>read and write</td> <td>110</td> </tr> <tr> <td>5</td> <td>read and execute</td> <td>101</td> </tr> <tr> <td>4</td> <td>read only</td> <td>100</td> </tr> <tr> <td>3</td> <td>write and execute</td> <td>011</td> </tr> <tr> <td>2</td> <td>write only</td> <td>010</td> </tr> <tr> <td>1</td> <td>execute only</td> <td>001</td> </tr> <tr> <td>0</td> <td>None</td> <td>000</td> </tr> </tbody> </table> <p>e.g.</p> <pre>-rwxr--r--</pre> <p>r = read, w = write, x = execute The first character represents either d (directory) or – (file). The first set of three characters (character 2 – 4) represents the permission for the user. The second set of three characters (character 5 – 7) represents the permission for the group. The third set of three characters (character 8 – 10) represents the permission for other users.</p> <p>e.g.</p> <pre>ls -l input.txt -rw-r--r-- 1 aikchoontan staff 23 Sep 3 11:38 input.txt chmod 777 input.txt ; ls -l input.txt -rwxrwxrwx 1 aikchoontan staff 23 Sep 3 11:38 input.txt</pre>	#	Permission	rwX	7	Full	111	6	read and write	110	5	read and execute	101	4	read only	100	3	write and execute	011	2	write only	010	1	execute only	001	0	None	000
#	Permission	rwX																										
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2	write only	010																										
1	execute only	001																										
0	None	000																										

	- changes the permission of <code>input.txt</code> to full access for all users.								
<code>clear</code>	Remove previous output from the shell display								
<code>comm</code>	Compare text files, line by line e.g. <code>comm file1 file2</code>								
<code>cp</code>	copy one or more files to another location								
<code>cut</code>	<p>Get text from a file by column or delimited field</p> <p>Options:</p> <table border="1" data-bbox="566 747 1268 961"> <thead> <tr> <th>Options</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>-f</td> <td>To specify a field number</td> </tr> <tr> <td>-d</td> <td>To specify a field delimiter</td> </tr> <tr> <td>-c</td> <td>To specify a character position</td> </tr> </tbody> </table> <p>e.g.</p> <pre>cat test.txt A1,A2,A3,A4 B1,B2,B3,B4 C1,C2,C3,C4 D1,D2,D3,D4 E1,E2,E3,E4 F1,F2,F3,F4</pre> <p>- shows the content of <code>test.txt</code></p> <pre>cut -f 2 -d "," test.txt A2 B2 C2 D2 E2 F2</pre> <p>- cuts the second field of <code>test.txt</code> separated by a comma</p>	Options	Description	-f	To specify a field number	-d	To specify a field delimiter	-c	To specify a character position
Options	Description								
-f	To specify a field number								
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<code>df</code>	<p>Display file system free space</p> <p>-m option to list sizes in Mb, rather than kb.</p>								

	<p>e.g.</p> <pre>df -m</pre>
diff	<p>Compare two files, line by line and show the differences</p> <p>e.g.</p> <pre>diff file1 file2</pre>
diff3	<p>Compare three files, line by line and show the differences</p> <p>e.g.</p> <pre>diff3 file1 file2 file3</pre>
du	<p>Display disk usage of directories or files -h option to display human readable units</p> <p>e.g.</p> <pre>du -h input.txt 4.0K input.txt</pre>
echo	<p>Display input on standard output</p> <p>e.g.</p> <pre>echo hello world hello world</pre>
exit	<p>Quit the shell or logout</p>
find	<p>Find a file in a specified hierarchy</p> <p>e.g.</p> <pre>find ~ -name "input.txt"</pre>
finger	<p>Display personal user information</p>
free	<p>Display free disk space in Mb units</p>
ftp	<p>Interactive file transfer via File Transfer Protocol</p>

	<p>e.g.</p> <pre>ftp WebServerURL [Connected] Name: UserName Password UserPassword put FileName get FileName quit</pre>
grep	<p>Match a specified string or regular expression</p> <p>e.g.</p> <pre>cat test.txt A1,A2,A3,A4 B1,B2,B3,B4 C1,C2,C3,C4 D1,D2,D3,D4 E1,E2,E3,E4 F1,F2,F3,F4</pre> <pre>grep "B" test.txt B1,B2,B3,B4</pre> <p>- prints line(s) that contains "B"</p>
gunzip	<p>Uncompress a file from gzip format</p> <p>e.g.</p> <pre>gunzip input.txt.gz</pre>
gzip	<p>Compress a file to gzip format</p> <p>e.g.</p> <pre>gzip input.txt</pre>
head	<p>Output the first ten lines of a file</p> <p>-n option to specify a different number of lines</p> <p>e.g.</p> <pre>head -n 3 input.txt</pre> <p>- outputs the top 3 lines in the file input.txt</p>

less	<p>Display content, page by page Use Page Down and Page Up keys to move Hit the Q key to return to a prompt</p> <p>e.g.</p> <pre>less longfile.txt</pre>								
ls	<p>List the contents of the current directory Options:</p> <table border="1"> <thead> <tr> <th>Options</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>-a</td> <td>To include hidden files</td> </tr> <tr> <td>-l</td> <td>To include access permissions</td> </tr> <tr> <td>-t</td> <td>To order the list by time stamps</td> </tr> </tbody> </table> <p>e.g.</p> <pre>ls ls -lt</pre>	Options	Description	-a	To include hidden files	-l	To include access permissions	-t	To order the list by time stamps
Options	Description								
-a	To include hidden files								
-l	To include access permissions								
-t	To order the list by time stamps								
man	<p>Show help page for a command Hit the Q key to return to a prompt</p> <p>e.g.</p> <pre>man cat</pre>								
mkdir	Make a new directory								
more	Display content, one screen at a time								
mv	Move or rename a file or directory								
passwd	Change a password								
paste	<p>Merge files as columns on standard output (can be used to combined files)</p> <p>e.g.</p> <pre>paste file1 file2</pre>								
rm	<p>Remove files or recursively delete directories -i option to ask before deleting each file -r option to delete a directory and its contents</p>								

<code>rmdir</code>	Remove an empty directory – use the <code>rm</code> command to delete non-empty directories														
<code>scp</code>	Securely copy files between two machines – encrypting transmission and requesting passwords where required														
<code>sort</code>	Display lines of text sorted alphabetically														
<code>ssh</code>	Secure shell login to a remote machine where you already have an account														
<code>tail</code>	<p>Output the last ten lines of a file <code>-n</code> option to specify a different number of lines</p> <p>e.g.</p> <pre>tail -n 5 test.txt</pre> <p>- outputs the last 5 lines in the file <code>test.txt</code></p>														
<code>tar</code>	<p>Create, update, or extract from a compressed tape archive file Options:</p> <table border="1" data-bbox="566 1041 1268 1413"> <thead> <tr> <th>Options</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><code>-c</code></td> <td>To create a new archive</td> </tr> <tr> <td><code>-z</code></td> <td>To gzip or gunzip</td> </tr> <tr> <td><code>-u</code></td> <td>To update an existing archive</td> </tr> <tr> <td><code>-x</code></td> <td>To extract files from an archive</td> </tr> <tr> <td><code>-v</code></td> <td>To see verbose descriptive output</td> </tr> <tr> <td><code>-f</code></td> <td>To use the archive file</td> </tr> </tbody> </table> <p>e.g.</p> <pre>tar -czvf archive.tar.gz Folder/</pre> <p>- creates and compresses all the contents in <code>Folder</code> as <code>archive.tar.gz</code></p> <p>e.g.</p> <pre>tar -uzvf archive.tar.gz newfile.txt</pre> <p>- updates the compressed <code>archive.tar.gz</code> with <code>newfile.txt</code></p>	Options	Description	<code>-c</code>	To create a new archive	<code>-z</code>	To gzip or gunzip	<code>-u</code>	To update an existing archive	<code>-x</code>	To extract files from an archive	<code>-v</code>	To see verbose descriptive output	<code>-f</code>	To use the archive file
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	<p>e.g.</p> <pre>tar -xzvf archive.tar.gz</pre> <p>- extracts all files from <code>archive.tar.gz</code> and print out the description of each file</p>
<code>top</code>	<p>List all processes running on the system</p> <p>-p option to monitor a specific PID</p>
<code>tr</code>	<p>Translate one set of characters to another</p> <p>e.g.</p> <pre>echo hello world tr "a-z" "A-Z"</pre> <p>HELLO WORLD</p> <p>e.g.</p> <pre>tr "\r" "\n" < mac_returns.txt > new_lines.txt</pre> <p>- translate the return characters in Mac file from <code>mac_returns.txt</code> to new lines and print the output in <code>new_lines.txt</code></p>
<code>uniq</code>	<p>Discard all but one identical lines of input</p>
<code>unzip</code>	<p>Extract compressed files from a zip archive</p> <p>e.g.</p> <pre>unzip archive.zip</pre>
<code>vi</code>	<p>Invoke <code>vi</code> text editor</p>
<code>wc</code>	<p>Display word count, line count, and byte count</p> <p>-l option display number of lines</p> <p>e.g.</p> <pre>wc -l test.txt</pre>
<code>wget</code>	<p>Download a web page a store a local copy</p>
<code>whereis</code>	<p>List source and man locations of a command</p>

Which	Display the source file location of a program
whoami	Display the number of the current effective user
zip	Create a compressed archive in zip format
*	Any string of characters e.g. <code>ls *.txt</code> - lists any file ending with <code>.txt</code>
?	Any one character e.g. <code>ls file?</code> - lists any file/directory with <code>file</code> and one character at the end
[]	Match any character in the brackets (a hyphen is used for ranges of characters) e.g. <code>ls file[1-3]</code> - lists <code>file1</code> , <code>file2</code> , and <code>file3</code>