

Command line navigation	
Ctrl-a and Ctrl-e	HOME and END
Backspace and Ctrl-d	backspace and delete
Ctrl-k and Ctrl-u	delete from cursor to beginning/end of line
Ctrl-y	Insert what you just deleted with Ctrl-k/u
Tab (or Ctrl-d)	Autocomplete anything

Directory navigation	
cd	change directory
\$ cd -	go to previous directory
\$ cd ..	go up one directory
\$ cd (or cd ~ or cd --)	go to your home directory
pwd	print current directory

Searching directories	
ls	list all items in a directory
\$ ls -ltr someDir	-l long form; -a include hidden files; -r reverse;
\$ ls -lSr someDir	-t time ordered; -S size ordered
find	list everything in directory and its subdirectories
\$ find someDir -type d	only returns directories
\$ find someDir -type f	only returns files
\$ find someDir -mtime -2	finds files modified in last 2 days
\$ find someDir -mmin +5	finds files modified before 5 minutes ago

Looking at files	
less	best file viewer
space or b	page down/up
g (or G)	go to beginning (or end) of file
/q3w8f	search for "q3w8f" in the file
n (or N)	go to next (previous) instance of "q3w8f"
q	quit

Searching	
grep	search in a file
\$ grep boo file	search for all lines containing "boo" in file
\$ grep -v hiss file	returns all lines <u>without</u> "hiss"
\$ grep -i BoPq file	case insensitive: finds lines w bopq, BoPQ, etc
\$ grep -l boo file1 file2	return only <u>names</u> of files that contain "boo"
\$ grep -A4 boo file	return each line with "boo" as well as the four rows (-A) above it (or (-B) below or -C for both)

Parsing/manipulating files/input of any kind	
head -n	look at first n lines of a file
tail -n	look at last n lines
cat	write out entire file/input (to the shell)
tac	like cat, but reverse the output top-to-bottom
rev	like cat, but reverse the output left-to-right
sort	sort a file/input (-n is numerical)
uniq	returns unique instances (-c returns a count)
wc -l	line count
echo hi how are you	write "hi how are you"
cut	simple file parser
\$ cut -c2-5 someFile	write out characters 2-5 from each line
\$ cut -d, -f4-6,8-	split file by commas and write out the 4 <sup>th</sup> through 6 <sup>th</sup> fields and the 8 <sup>th</sup> and beyond
awk	powerful file parser
\$ awk -F'\t' /pasta/ '{print \$2}' file	split file by tabs, take the lines with the phrase "pasta" and return the second field
\$ awk '{print NF,\$0}' thefile	split file by whitespace and return the number of fields on each line followed by the line itself
\$ awk -F, /sun/ 'BEGIN{a=0;b=0} {if(\$2>5){a+=\$5;b+=1}} END{print \$a/\$b}' file	split file by commas and return the average value of the fifth field for all rows containing the phrase "sun" where the second field is greater than 5
sed	string editor (search and replace)
\$ sed 's/hi/bye/g' sFile	write out sFile but replace "hi" with "bye" everywhere ("/g")
\$ sed -i 's/hi/' sFile	remove the first instance of "hi" on each line of sFile and overwrite sFile ("-i")

Comparing files	
diff file1 file2	returns lines that are different in file1 and file2
diff -r dir1 dir2	returns all lines of all files that are different in all subdirectories of dir1 and dir2
diff -bw file1 file2	diff but ignore whitespace

Broadening your selection: wildcards, aliases, etc	
ls a*qb	list files that start with a and end with qb
ls [a-zA-Z]*	list files that start with a letter
ls {2,3,5}bb*	list files that start with 2bb, 3bb, or 5bb
ls xx{000..2}	list files matching xx000, xx001, or xx002
!\$	alias: the last word of the last command
!:3	alias: the third word of the last command

Combining commands	
("pipe" symbol)	moves output from one command to another
>	write output to file (overwrite)
>>	write output to file (append)
cut -d, -f3 file   sort -n   uniq -c > file2	split file by commas, get the third field, sort them numerically, get a count of all unique instances, and write it out to file2
\$()	returns the output(s) of the command
ls -tr \$(grep -il hat dir/*)	

Pausing/restarting; running in the background	
&	run command in the background
\$ xclock &	
Ctrl-z	pause current command
bg	unpause and run in background
fg	unpause and run in foreground OR run background process in foreground
Ctrl-c	stop a running process
screen	create multiple background sessions
ctrl-a c	make a new session
ctrl-a d	detach current session (to background)
ctrl-a 4	cycle to fourth open session
ctrl-a n (or p)	go to next (or previous) open session
ctrl-a k	kill current session
\$ screen -r	reopen a detached session
\$ screen -r #####	reopen detached session #####

Coding	
\$ a=/usr/bin/someDir/	variables
\$ b=\${a}someFile	always use braces to get variables' values
\$ for file in \$(ls dir1/*); do grep -il string \${file}; done	for loop (generating an array in the parentheses)
\$ if [[ -n \${string} ]]; then echo "hi"; fi	if statement -n -> non-zero-length string -z -> zero length string
\$ if [ -e myfile.txt ]; then echo "exists!"; fi	-e -> file exists -s -> non-zero-length file exists -d -> directory exists
\$ if [ ! -s myfile.tar ]; then echo "nope"; fi	! means not

Compressing and transferring files	
gzip (or gunzip)	compress (or decompress) a file
tar -czvf ocf.tgz myDir	make one compressed file with everything in myDirectory
tar -xzvf outfile.tgz	restore everything from the file