



This quick reference lists commands, including a syntax diagram and brief description. [...] indicates an optional part of the command. For more detail, use:

man *command*

Use **man** **tcsh** for the command language.

1. Files

1.1. Filename Substitution

Wild Cards	? *
Character Class (c is any single character)	[c...]
Range	[c-c]
Home Directory	~
Home Directory of Another User	~user
List Files in Current Directory	ls [-l]
List Hidden Files	ls -[l]a

1.2. File Manipulation

Display File Contents	cat filename
Copy	cp source destination
Move (Rename)	mv oldname newname
Remove (Delete)	rm filename
Create or Modify file	pico filename

1.3. File Properties

Seeing Permissions	ls -l filename
Changing Permissions	chmod nnn filename

chmod *c=p...[,c=p...] filename*

n, a digit from 0 to 7, sets the access level for the user (owner), group, and others (public), respectively. *c* is one of: **u**-user; **g**-group, **o**-others, or **a**-all. *p* is one of: **r**-read access, **w**-write access, or **x**-execute access.

Setting Default Permissions	umask ugo
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ugo is a (3-digit) number. Each digit restricts the default permissions for the user, group, and others, respectively.

Changing Modification Time	touch filename
Making Links	ln [-s] oldname newname
Seeing File Types	ls -F

1.4. Displaying a File with less

Run less	less filename
Next line	RETURN
Next Page	SPACE
Previous line	k
Previous Page	b

1.5. Directories

Change Directory	cd directory
Make New Directory	mkdir directory
Remove Directory	rmdir directory
Print Working (Show Current) Directory	pwd

2. Commands

2.1. Command-line Special Characters

Quotes and Escape

Join Words	"..."
Suppress Filename, Variable Substitution	'...'
Escape Character	\

Separation, Continuation

Command Separation	;
Command-Line Continuation (at end of line)	\

2.2. I/O Redirection and Pipes

Standard Output	>
(overwrite if exists)	>!
Appending to Standard Output	>>
Standard Input	<
Standard Error and Output	>&
Standard Error Separately	>& errorfile

(*command* > *output*) >& *errorfile*

Pipes/ Pipelines *command* | *filter* [| *filter*]

Filters

Word/Line Count	wc [-l]
Last <i>n</i> Lines	tail [-n]
Sort lines	sort [-n]
Multicolumn Output	pr -t
List Spelling Errors	ispell

2.3. Searching with grep

grep Command	grep "pattern" filename
	command grep "pattern"

Search Patterns

beginning of line	^
end of line	\$
any single character	.
single character in list or range	[...]
character not in list or range	[^...]
zero or more of preceding char. or pattern	*
zero or more of any character	.*
escapes special meaning	\

3. C-Shell Features.

3.1 History Substitution

Repeat Previous Command	!!
Commands Beginning with <i>str</i>	! <i>str</i>
Commands Containing <i>str</i>	!? <i>str</i> [?]
All Arguments to Prev. Command	!*

Word Designators

All Arguments	:*
Last Argument	:\$
First Argument	:^
<i>n</i> 'th Argument	: <i>n</i>

Arguments *x* Through *y* `:x-y`

Modifiers

Print Command Line `:p`

Substitute Command Line `:[g]s/l/r/`

3.2 Aliases

`alias` Command `alias name 'definition'`

definition can contain escaped history substitution event and

word designators as placeholders for command-line arguments.

3.3. Variable Substitution

Creating a Variable `set var`

Assigning a Value `set var = value`

Expressing a Value `$var`

Displaying a Value `echo $var`

value is a single word, an expression in quotes, or an expression that results in a single word after variable, filename and command substitution takes place.

Assigning a List `set var = (list)`

list is a space-separated list of words, or an expression that results in a space-separated list.

Selecting the *n*'th Item `$var[n]`

Selecting all Items `$var`

Selecting a Range `$var[x-y]`

Item Count `$#var`

3.4 foreach Lists

Start `foreach` Loop `foreach var (list)`

`foreach` prompts for commands to repeat for each item in list (with >), until you type **end**. Within the loop, `$var` stands for the current item in *list*.

3.5. Command Substitution

Replace Command with its Output on Command Line ``...``

3.6 Job Control

Run Command in the Background `&`

Stop Foreground Job CTRL-Z

List of Background Jobs `jobs`

Bring Job Forward `%[n]`

Resume Job in Background `%[n] &`

4. Processes

Listing `ps [-ef]`

Terminating `kill [-9] PID`

Timing `time command`

time is a number up to 4 digits. *script* is the name of a file containing the command line(s) to perform.

5. Users

Seeing Who is Logged In `who`

`w`

Seeing Your User Name `whoami`

6. Managing Files

6.1. Looking Up Files

Standard Commands `whereis file`

Aliases and Commands `which command`

Describe Command `whatis command`

Searching Out Files `find dir -name name -print`
dir is a directory name within which to search.
name is a filename to search for.

6.2. Finding Changes

Comparing Files `diff leftfile rightfile`

`diff` prefixes a less-than (<) to selected lines from *leftfile* and a greater-than (>) to lines from *rightfile*.

6.3. Automating Tasks

Create a Makefile `pico Makefile`

A makefile consists of macro definitions and targets.

Test Makefile `make -n [target]`

Run `make` `make [target]`

6.4. Managing Disk Usage

Check Quota `quota -v`

Seeing Disk Usage `df`

`du -s`

6.5. Combining and Compressing Files

Create a tarfile `tar cf file.tar file1 file2 ... fileN`

`tar` combines files but does not compress

Create a zipfile `zip filename`

Unzip a file `unzip filename`

7. Printing

7.1 Formatting Output for Printing

Paginate with Page Headers `pr filename`

in *n* columns `pr -n filename`

Format for Laser Printer `tex document`

7.2 The Printer Queue

Print a File `lp [-dpr] filename`

`lpcae filename`

Check Quota `lpquot`

List Queue `lpq`

Stop Job `lprm`

8. Miscellaneous

8.1 Miscellaneous Commands

List Commands for Subject `man -k subject`

Display Current Date and Time `date`

Log off `exit`

Electronic Mail `pine`

Display Documentation `man command`

8.2 Control Keys

Abort Program CTRL-C

Backspace (Delete Last Character) CTRL-H

Pause Display on Screen CTRL-S

Resume Display after CTRL-S CTRL-Q

Send Job to Background CTRL-Z followed by **bg**

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