

UNIX Quick Reference Sheet

1 Log In Session

1.1 Log In

Enter username at login: prompt.

Enter password at password: prompt.

1.2 Change Password

passwd

1.3 Log Out

logout or exit

2 File System

2.1 Create a File

cat > file	Enter text and end with ctrl-D
vi file	Edit file using the vi editor
emacs file	Emacs fullscreen editor

2.2 Make a Directory

mkdir directory-name

2.3 Display File Contents

cat file	display contents of file
more file	display contents and on screenfulls
head file	Output beginning of file
head -# file	displays the specified number of lines from the top of the file.
tail file	Output end of file
tail file -#	displays the specified number of lines from the end of the file.

2.4 Comparing Files

diff file1 file2

line by comparison

cmp file1 file2

byte by byte comparison

2.5 Changing Access Modes

chmod mode file1 file2 ...

chmod -R mode dir (changes all files in dir)

Mode Settings

u user (owner)

g group

o other

+ add permission

- remove permission

r read

w write

x execute

Example: chmod go-rwx foo.c removes read, write, and execute permissions for group and other on foo.c.

2.6 List Files and Directories

ls list contents of directory

ls -A include files with "." (dot files)

ls -l list contents in long format (show modes)

|more The pipe symbol (|), located above the backward slash (\) key, and the word **more** can be used after Unix listing commands (such as **ls** or **cat filename**) to display information one screen at a time (**ls |more** or **cat filename |more**). Press Enter or the Spacebar to scroll forward.

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2.7 Move (or Rename) Files and Directories

<code>mv src-file dest-file</code>	rename <i>src-file</i> to <i>dest-file</i>
<code>mv src-file dest-dir</code>	move a file into a directory
<code>mv src-dir dest-dir</code>	rename <i>src-dir</i> , or move to <i>dest-dir</i>
<code>mv -i src dest</code>	copy & prompt before overwriting

2.8 Copy Files

<code>cp src-file dest-file</code>	copy <i>src-file</i> to <i>dest-file</i>
<code>cp src-file dest-dir</code>	copy a file into a directory
<code>cp -R src-dir dest-dir</code>	copy one directory into another
<code>cp -i src dest</code>	copy & prompt before overwriting

2.9 Remove File

<code>rm file</code>	remove (delete) a file
<code>rmdir dir</code>	remove an empty directory
<code>rm -r dir</code>	remove a directory and its contents
<code>rm -i file</code>	remove file, but prompt before deleting

2.10 Compressing files

<code>compress file</code>	encode <i>file</i> , replacing it with <i>file.Z</i>
<code>zcat file.Z</code>	display compressed file
<code>uncompress file.Z</code>	decode <i>file.Z</i> , replacing it with <i>file</i>

2.11 Change Working Directory

<code>cd</code>	return to your login (home) directory
<code>cd dir</code>	change to directory <i>dir</i>

2.12 Find Name of Current Directory

<code>pwd</code>	display absolute path of working directory
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2.13 Pathnames

simple: One filename or directory name for accessing local file or directory. **Example:** `foo.c`

absolute: List of directory names from root directory to desired file or directory name, each separated by /. **Example:** `/src/shared`

relative: List of directory names from working directory to desired file or directory name, each separated by /. **Example:** `Mail/inbox/23`

2.14 Directory Abbreviations

<code>~</code>	Your home (login) directory
<code>~username</code>	Another user's home directory
<code>.</code>	Working (current) directory
<code>..</code>	Parent of working directory
<code>.../..</code>	Parent of parent directory

3.0 Commands

3.1 Date

<code>date</code>	display date and time
<code>cal</code>	displays the current month

3.2 Wild Cards

<code>?</code>	single character wild card
<code>*</code>	Arbitrary number of characters

3.3 Printing (lp & lpr cmd's)

<code>lpr file</code>	print <i>file</i> on default printer
<code>lpr -Pprinter file</code>	print <i>file</i> on <i>printer</i>
<code>lpr -c# file</code>	print # copies of <i>file</i>
<code>lpr -d file</code>	interpret <i>file</i> as a dvi file
<code>lpq</code>	show print queue (-Pprinter also valid)
<code>lprm -#</code>	remove print request # (listed with lpq)

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3.4 Redirection

```
command > file    direct output of command to file  
                   instead of standard output(screen),  
                   replacing current contents of file  
command >> file  as above, except output is appended to  
                   the current contents of file  
command < file   command receives input from file instead  
                   of standard input (keyboard)  
cmd1 | cmd2      "pipe" output of cmd1 to input of cmd2  
script file      log everything displayed on the  
                   terminal to file; end with exit
```

3.5 Talk

```
mesg n          sets your account to reject talk  
                requests  
mesg y          sets your account to accept a talk requests  
                (default)  
talk userID     initiates a talk request with  
                someone who has an account on  
                the same system  
talk userID@system-name initiates a talk request with  
                someone who has an account on a  
                different system  
  
write userID    initiates a write request with  
                someone who has an account on  
                the same system
```

4 Search Files

```
grep string filelist  show lines containing string in  
                     any file in filelist  
grep -v string filelist show lines not containing string  
grep -i string filelist show lines containing string,  
                     ignore case
```

5 Information on Users

```
finger user or      get information on a user  
finger user@machine  list users on machine  
finger @machine       list current users  
who                  Change finger information  
chfn
```

6 Timesavers

6.1 Aliases

```
alias string command  abbreviate command to string
```

6.2 History: Command Repetition

Commands may be recalled

History	show command history
!num	repeat command with history number num
!str	repeat last command beginning with string str
!!	repeat entire last command line
!\$	repeat last word of last command line

6.3 Help

man command	displays information from the online Unix reference manual about a specific command
man -k keyword	displays the commands relevant to a keyword

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7.0 Process and Job Control

7.1 Important Terms

pid Process IDentification number.

job-id Job identification number.

7.2 Display Process and/or Job Ids

ps report processes and pid numbers
ps gx as above, but include "hidden" processes
jobs report current jobs and job id numbers
ctrl-S Stop screen scrolling
Ctrl-Q Resume screen output
sleep n Sleep for n seconds

7.3 Stop (Suspend) a Job

ctrl-Z NOTE:process still exists!
stop %n Suspend background job n

7.4 Run a Job in the Background

Start job in background: Add & to end of command. **Example:** xdvi

unixintro.dvi &

Force a running job into the background:

ctrl-Z stop the job

bg "push" the job into the background

cmmnd& Run cmmnd in background

7.5 Bring a Job to the Foreground

fg bring a job to foreground
fg %job-id foreground by job-id

7.6 Kill a Process or Job

ctrl-C kill foreground process
kill -KILL pid#
kill -KILL %job-id#

8.0 Compiler

cc [-o f1] f2 C compiler
lint f Check C code for errors
f77 [-o f1] f2 Fortran77 compiler
pc [-o f1] f2 Pascal compiler
lisp Lisp compiler