

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

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

2.8 Copy Files

```
cp src-file dest-file   copy src-file to dest-file
cp src-file dest-dir    copy a file into a directory
cp -R src-dir dest-dir  copy one directory into another
cp -i src dest         copy & prompt before overwriting
```

2.9 Remove File

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

2.10 Compressing files

```
compress file          encode file, replacing it with file.Z
zcat file.Z           display compressed file
uncompress file.Z     decode file.Z, replacing it with file
```

2.11 Change Working Directory

```
cd          return to your login (home) directory
cd dir     change to directory dir
```

2.12 Find Name of Current Directory

```
pwd    display absolute path of working directory
```

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

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

3.0 Commands

3.1 Date

```
date            display date and time
cal             displays the current month
```

3.2 Wild Cards

```
?              single character wild card
*              Arbitrary number of characters
```

3.3 Printing (lp & lpr cmds)

```
lpr file          print file on default printer
lpr -Pprinter file print file on printer
lpr -c# file      print # copies of file
lpr -d file       interpret file as a dvi file
lpq             show print queue (-Pprinter also valid)
lprm -#         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
`finger user@machine` get information on a `user`
`finger @machine` list users on `machine`
`who` list current users
`chfn` Change finger information

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