

## UNIX Reference Card

HelpDesk Phone: 348-2435 (UA-HELP on-campus)

E-mail: help.desk@ua.edu

Hours: Mon - Fri 8:00 a.m. - 4:45 p.m.

Additional Phone Hours:

Sun - Thur 4:45 - 8:00 p.m. (fall and spring only)

Seebeck Computer Lab: 127 Gordon Palmer

Open 24 hours during normal operating procedures

Labs are also located in various academic buildings

### Getting Started

UNIX commands are used while connected directly to bama through a terminal interface. Our recommended program is the PC telnet program TeraTerm.

Commands are entered by giving the command name, any desired options, then any filenames or directory names all separated by spaces. When “enter” is pressed, the command is processed by bama.

UNIX is case sensitive. All UNIX commands are lower-case. Type commands demonstrated on this reference card exactly as shown. File and directory names can be mixed-case but always must be typed exactly as named.

**For complete lists of options use the “man” command.**

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### Directories

**mkdir** *directory-name* – make a new directory

**rmdir** *directory-name* – remove a directory (must be empty of all files)

**cd** *directory-name* – change to given directory

**cd** – change to your home directory

**cd** **.** – change to directory one level up

~ refers to home directory

. refers to current directory

.. refers to directory one level back

/ refers to entire filesystem root.

### Working With Files

**ls** *options filename* – list files in a directory

Options for **ls** include:

- a show all files including hidden ones (those beginning with a “.”)
- l long list showing ownership, permission and links
- t time-ordered list
- F mark directories with “/”, links with “@” and executables with “\*”

**mv** *options filename new-filename* – rename a file

**mv** *options filename directory-name* – move file to a new directory

**mv** *options directory-name new-directory-name* – move a directory and all of its contents to a new directory, keeping the structure intact. New directory must already exist.

**cp** *options filename new-filename* – copy file

**rm** *options filename* – delete file

The most useful option for **mv**, **cp**, and **rm** is **-i**. This will cause command to verify (inquire) before execution.

### Permissions and Security

**chmod** *permission filename(s)* – set level of access permissions pertain to (u)ser, (g)roup and (o)ther and include (r)ead, (w)rite, and e(x)ecute.

Turn access on with “+”

Turn access off with “-”

Set access exactly to with “=”

**chmod go-rwx** *filename(s)* – protect your files from prying eyes

### Compilers

**f77** *options filename.f* – FORTRAN77 compiler (Sun)

**f90** *options filename.f90* – FORTRAN90 compiler (Sun)

**cc** *options filename.c* – C compiler (Sun)

**CC** *options filename.cc* – C++ compiler (Sun)

**gcc** *options filename.c* – C compiler (gnu)

**g++** *options filename.cc* – C++ compiler (gnu)

**pc** *options filename.p* – Pascal compiler (Sun)

Options are compiler-specific. Execute the compiled binary with

*./binary-name*

If not specified, binary will be called “a.out”

### Printing

**LPDEST** *printername*

**export LPDEST** – select a new printer

**lp** *option filename* – print file

**cancel** *printjob* – cancel print job in queue. Get *printjob* name from **lp** command result

**enscript** *options filename* – format file for PostScript printer

**lpstat** *-p printername* – check printer queue. Use “all” for *printername* to find out what is available

## Editing

**vi** *options filename* – standard UNIX (vi)sual editor

**emacs** *options filename* – terminal-based editor

**pico** *options filename* – simple text editor

**textedit** *options filename* – X-windows editor

## Compressing and Archiving

**compress (uncompress)** *options filename(s)* – compress (uncompress) using LZ algorithm.

**gzip (gunzip)** *options filename(s)* – a slightly more efficient compress/uncompress

**zip (unzip)** *options filename(s)* – compress (uncompress) and archive (unarchive)

**tar** *options -f archive-name filename(s)* – work with “tar” archive of files

**tar -xvf archive** – extract files from archive

**tar -cvf archive files(s)** – create archive

**tar -tvf archive** – list files in archive

## Other Useful Commands

**clear** – clear the screen

**pine** – text-based email program

**date** – current date and time

**ftp** *machinename* – initiate ftp session with another machine

**ispell** *options filename* – spell-check given file

**quota -v** – show disk space usage and quota

**grep** *options string filename* – look for *string* in *filename*

**wc** *options filename* – count lines, words, and characters in *filename*.

**script** – keep a record of terminal session

**filep** *options filename* – print a file with pretty formatting

**cat** *file1 >> file2* – append *file1* to *file2*.

## Viewing File Contents

**page** *filename* – go through a file one page at a time

**less** *filename* – page through a file with capability for going backwards

**head** *options filename* – view the first few lines of a file

**tail** *options filename* – view the last few lines of a file

## Shell Commands

**history** – show list of commands previously run

**escape** (repeat **k** or **j**) – move up or down through history of commands. Press “enter” to re-execute (ksh only).

**alias** *newcommand command-string* – create new command that runs *command-string* including all of the given options

*command* > *outputfile* – *command*’s output goes to *outputfile* (>> will append)

*command* < *inputfile* – *command*’s input comes from *inputfile*

*command1* | *command2* – *command1*’s output becomes *command2*’s input

## Scripting

Programs can be scripted using any of the following. Some scripting languages are more useful than others. Login startup files are in (.).

/bin/ksh (.profile, .kshrc [if setup])

/bin/sh (.profile)

/usr/local/bin/bash (.bash\_login, .bash\_profile, .profile)

/bin/csh (.login, .chsrc)

/usr/local/bin/tcsh (.login, .chsrc)

/usr/local/bin/perl

/usr/local/bin/wish8.0

/usr/local/bin/rexx

## Working With Processes

**ps** *option* – show running jobs on system.

**ps -fu** *userid* – show jobs running as *userid*

**kill** *pid* – kill a job given by process id *pid*.  
Use **ps -fu** *userid* to find the *pid*.

**control-z** – stop the foreground job

**bg (fg)** – put a stopped job into the background (foreground)

**jobs** – show user’s running and suspended jobs

**nohup** *command* & – run a command in the background that will not stop when you logout. (applies to ksh only)

## X-Windows

• **enableX** – sets user DISPLAY. Xwindows server must be enabled on PC

**textedit** *filename* – edit *filename*

**netscape** – start Netscape Navigator

**jws** – Java Workshop programming suite

**ws** – Sun Workshop programming and debugging suite

## More Help

**man** *command* – display on-line manual about *command*

**Web pages:**

<http://bama.ua.edu/~unixinfo> – lots more information

<http://bama.ua.edu/~unixinfo/helpers> – on-line password change, shell change, email setup, etc.

<http://bama.ua.edu/~unixinfo/tipsheets> – more information on selected topics