

Psychotic's Unix Bible Written by Virtual Circuit

* Psychotic's Unix Bible written by Virtual Circuit. This document may not be ch.
*

A list of commands and a quick description

alias this allows the user view the current aliases
awk this allows the user to search for a pattern within a file
bdiff compares two large files
bfs scans a large file
cal shows a calendar
cat concatenates and prints a file
cc c compiler
cd changes directories
chgrb changes a file groups ownership
chmod changes the permission on a file
chown changes the individual ownership of a file
cmp compares two files
comm compares two files so as to determine which lines are common to
cp copies file to another location
cu calls another unix sysytem
date returns the date and time
df shows all mounted drives on your machine
diff displays the diference between two files
du shows the disk usage in blocks for a directory
echo echoes the data to the screen or file
ed text editor
env lists the current environment variables
ex another text editor
expr evaluates a mathmatical formula
find finds a file
f77 fortran complier
format initializes a floppy disk
grep searches for a pattern within a file
help gives help
kill stops a running process
ln creates a link between two files
lpr copies the file to the line printer
ls lists the files in a directory
mail allows the user to send/receive mail
mkdir makes directory
more displays a data file to the screen
mv used to move or rename files
nohup allows a command to continue running even when you log out
nroff used to format text
passwd changes your password
pkgadd installs a new program onto your machine
ps Lists the current processes running
pwd displays the name of the working directory
rm removes files
rmdir removes directories
set lists all the variables in the current shell
setenv sets the environment variables
sleep causes a process to become inactive
source allows the user to execute a file and update any changed values
sort sorts files
spell checks for spelling errors in a file
split divides a file
stty sets the terminal options
tail displays the end of a file
tar copies all specified files into one
touch creates an empty file or updates the time/date stamp on a file
troff outputs formatted output

```

tset ..... sets the terminal type
umask ..... specify a new creation mask
uniq ..... compairs two files
uucp ..... unix to unix execute
vi ..... full screen editor
vipw ..... opens the vi editor as well as password file for editing
volcheck ..... checks to see if there is a floppy disk mounted to your machine
wc ..... displays detail in the full size
who ..... inf. on other people online
write ..... send a message to another user
! ..... repeats commands

```

More commands with a better description (Not all commands are listed):

```
cat: -b, --number-nonblank
```

Number all nonblank output lines, starting with 1.

```
-e
Equivalent to -vE.
```

```
-n, --number
Number all output lines, starting with 1.
```

```
-s, --squeeze-blank
Replace multiple adjacent blank lines with a single blank line.
```

```
-t
Equivalent to -vT.
```

```
-u
Ignored; for Unix compatibility.
```

```
-v, --show-nonprinting
Display control characters except for LFD and TAB using `^' notation and      pre
```

```
-A, --show-all
Equivalent to -vET.
```

```
-E, --show-ends
Display a `$$' after the end of each line.
```

```
-T, --show-tabs
Display TAB characters as `^I'.
```

```
--help
Print a usage message and exit with a status code indicating success.
```

```
--version
Print version information on standard output then exit.
```

cd: directory becomes the new working directory. The process must have execute (s

chmod: The format of a symbolic mode is `[ugoa...][[+=][rwxXstugo...]]...[,...]'.

A combination of the letters `ugoa' controls which users' access to the file will not affected.

The operator `+' causes the permissions selected to be added to the existing perm

The letters `rwxXstugo' select the new permissions for the affected users: read (

A numeric mode is from one to four octal digits (0-7), derived by adding up the b

other users in the file's group, with the same values; and the fourth for other users. The `chmod` system call never changes the permissions of symbolic links; the `chmod` system call cannot.

OPTIONS

`-c, --changes`

Verbosely describe only files whose permissions actually change.

`-f, --silent, --quiet`

Do not print error messages about files whose permissions cannot be changed.

`-v, --verbose`

Verbosely describe changed permissions.

`-R, --recursive`

Recursively change permissions of directories and their contents.

`--help`

Print a usage message on standard output and exit successfully.

`--version`

Print version information on standard output then exit successfully.

`clear`: `clear` clears your screen if this is possible. It looks in the environment

`date`: This manual page documents the GNU version of `date`. `date` with no arguments ;

The directives are:

`%`

a literal `%`

`n`

a newline

`t`

a horizontal tab

Time fields:

`%H`

hour (00..23)

`%I`

hour (01..12)

`%k`

hour (0..23)

`%l`

hour (1..12)

`%M`

minute (00..59)

`%p`

locale's AM or PM

`%r`

time, 12-hour (hh:mm:ss [AP]M)

`%s`

seconds since 1970-01-01 00:00:00 UTC (a nonstandard extension)

%S
second (00..61)

%T
time, 24-hour (hh:mm:ss)

%X
locale's time representation (%H:%M:%S)

%Z
time zone (e.g., EDT), or nothing if no time zone is determinable

Date fields:

%a
locale's abbreviated weekday name (Sun..Sat)

%A
locale's full weekday name, variable length (Sunday..Saturday)

%b
locale's abbreviated month name (Jan..Dec)

%B
locale's full month name, variable length (January..December)

%c
locale's date and time (Sat Nov 04 12:02:33 EST 1989)

%d
day of month (01..31)

%D
date (mm/dd/yy)

%h
same as %b

%j
day of year (001..366)

%m
month (01..12)

%U
week number of year with Sunday as first day of week (00..53)

%w
day of week (0..6) with 0 corresponding to Sunday

%W
week number of year with Monday as first day of week (00..53)

%x
locale's date representation (mm/dd/yy)

%y
last two digits of year (00..99)

%Y
year (1970...)

By default, date pads numeric fields with zeroes. GNU date recognizes the followi:

(hyphen) do not pad the field

(underscore) pad the field with spaces

If given an argument that does not start with '+', date sets the system clock to

MM
month

DD
day within month

hh
hour

mm
minute

CC
first two digits of year (optional)

YY
last two digits of year (optional)

ss
second (optional)

Only the superuser can set the system clock.

OPTIONS

-d datestr, --date datestr
Display the time and date specified in datestr, which can be in almost any common

--help
Print a usage message on standard output and exit successfully.

-s datestr, --set datestr
Set the time and date to datestr, which can be in almost any common format. It ca

-u, --universal
Print or set the time and date in Coordinated Universal Time (also known as Green

--version
Print version information on standard output then exit successfully.

find: find recursively descends the directory hierarchy for each pathname in the ;

find does not follow symbolic links to other files or directories; it applies the

If the fast-find feature is enabled, find displays pathnames in which a filename

USAGE

Operators

In the descriptions, the argument n is used as a decimal integer where +n means m

-fstype type
True if the filesystem to which the file belongs is of type type, where type is t

-name filename True if the
filename argument matches the current file name. Shell argument syntax can be use

`-perm onum`
True if the file permission flags exactly match the octal number `onum` (see `chmod()`)

`-prune`
Always yields true. Has the side effect of pruning the search tree at the file. True

`-type c`
True if the type of the file is `c`, where `c` is one of:

- `b`
for block special file `c`
- `c`
for character special file
- `d`
for directory
- `f`
for plain file
- `p`
for named pipe (FIFO)
- `l`
for symbolic link
- `s`
for socket

`-links n`
True if the file has `n` links.

`-user uname`
True if the file belongs to the user `uname`. If `uname` is numeric and does not appear

`-nouser`
True if the file belongs to a user not in the `/etc/passwd` database.

`-group gname`
True if the file belongs to group `gname`. If `gname` is numeric and does not appear

`-nogroup`
True if the file belongs to a group not in the `/etc/group` database.

`-size n`
True if the file is `n` blocks long (512 bytes per block). If `n` is followed by a `c`,

`-inum n`
True if the file has inode number `n`.

`-atime n`
True if the file has been accessed in `n` days. Note: the access time of directories

`-mtime n`
True if the file has been modified in `n` days.

`-ctime n`
True if the file has been changed in `n` days. "Changed" means either that the file

`-exec command`
True if the executed command returns a zero value as exit status. The end of comm

`-ok command`

Like `-exec` except that the generated command is written on the standard output, t

`-print`

Always true; the current pathname is printed.

`-ls`

Always true; prints current pathname together with its associated statistics. The

`-cpio device`

Always true; write the current file on device in cpio(5) format (5120-byte record

`-ncpio device`

Always true; write the current file on device in cpio `-c` format (5120-byte record

`-newer file`

True if the current file has been modified more recently than the argument filena

`-xdev`

Always true; find does not traverse down into a file system different from the on

`-depth`

Always true; find descends the directory hierarchy, acting on the entries in a di

(expression)

True if the parenthesized expression is true. Note: Parentheses are special to th

`!primary`

True if the primary is false (! is the unary not operator).

`primary1 [-a] primary2`

True if both primary1 and primary2 are true. The `-a` is not required. It is implic

`primary1 -o primary2`

True if either primary1 or primary2 is true (`-o` is the or operator).

Fast-Find

The fast-find feature is enabled by the presence of the find.codes database in /u

An alternate database can be specified by setting the FCODES environment variable
are not preserved.

In the second form, cp recursively copies directory1, along with its contents and

In the third form, each filename is copied to the indicated directory; the basena

cp refuses to copy a file onto itself.

finger: By default, finger displays information about each logged-in user, includ
remotely) if known.

Idle time is minutes if it is a single integer, hours and minutes if a `:' is pre

When one or more name arguments are given, more detailed information is given for

If a name argument contains an at-sign, `@', then a connection is attempted to th

grep: Grep searches the named input files (or standard input if no files are name

There are three major variants of grep, controlled by the following options.

`-G` Interpret pattern as a basic regular expression (see below). This is the defau

`-E` Interpret pattern as an extended regular expression (see below).

`-F`

Interpret pattern as a list of fixed strings, separated by newlines, any of which

All variants of `grep` understand the following options: `-num` Matches will be printed

`-A num`
Print `num` lines of trailing context after matching lines.

`-B num`
Print `num` lines of leading context before matching lines.

`-C`
Equivalent to `-2`. `-V` Print the version number of `grep` to standard error. This version

`-b`
Print the byte offset within the input file before each line of output.

`-c`
Suppress normal output; instead print a count of matching lines for each input file.

`-h`
Suppress the prefixing of filenames on output when multiple files are searched.

`-i`
Ignore case distinctions in both the pattern and the input files. `-L` Suppress printing of

`-q`
Quiet; suppress normal output.

`-s`
Suppress error messages about nonexistent or unreadable files. `-v` Invert the sense of

`kill`: `kill` sends the `TERM` (terminate, 15) signal to the processes with the specified `SIG` prefix.

The terminate signal will kill processes that do not catch the signal, so ``kill -9` works only if you use `sh(1)`; not if you use `cs(1)`.) Negative process numbers also work.

To shut the system down and bring it up single user the super-user may send the `init` process

The shell reports the process number of an asynchronous process started with ``&`

`kill` is built in to `cs(1)`; it allows job specifiers, such as ``kill % ...'`, in place of

`less`: `Less` is a program similar to `more (1)`, but which allows backwards movement. `less`

Commands are based on both `more` and `vi`. Commands may be preceded by a decimal number

In the following descriptions, `^X` means control-`X`. `ESC` stands for the `ESCAPE` key;

`H`
Help: display a summary of these commands. If you forget all the other commands, type

`SPACE` or `f` or `^F` or `^V`
Scroll forward `N` lines, default one window (see option `-z` below). If `N` is more than one

`b` or `^B` or `ESC-v`
Scroll backward `N` lines, default one window (see option `-z` below). If `N` is more than one

`RETURN` or `^N` or `e` or `^E` or `j` or `^J`
Scroll forward `N` lines, default 1. The entire `N` lines are displayed, even if `N` is more than

`y` or `^Y` or `^P` or `k` or `^K`
Scroll backward `N` lines, default 1. The entire `N` lines are displayed, even if `N` is more than

`d` or `^D`

Scroll forward N lines, default one half of the screen size. If N is specified, i

u or ^U
Scroll backward N lines, default one half of the screen size. If N is specified, .

r or ^R or ^L
Repaint the screen.

R
Repaint the screen, discarding any buffered input. Useful if the file is changing

g or < or ESC-<
Go to line N in the file, default 1 (beginning of file). (Warning: this may be sl

G or > or ESC->
Go to line N in the file, default the end of the file. (Warning: this may be slow

p or %
Go to a position N percent into the file. N should be between 0 and 100. (This wo

m
Followed by any lowercase letter, marks the current position with that letter.

`
(Single quote.) Followed by any lowercase letter, returns to the position which w

^X^X Same as single quote.

/pattern
Search forward in the file for the N-th line containing the pattern. N defaults t

?pattern
Search backward in the file for the N-th line containing the pattern. The search

!/pattern
Like /, but the search is for the N-th line which does NOT contain the pattern.

?!pattern
Like ?, but the search is for the N-th line which does NOT contain the pattern.

n
Repeat previous search, for N-th line containing the last pattern (or NOT contain

E [filename]
Examine a new file. If the filename is missing, the "current" file (see the N and

^X^V or :e
Same as E. Warning: some systems use ^V as a special literalization character.

N or :n
Examine the next file (from the list of files given in the command line). If a nu

P or :p
Examine the previous file. If a number N is specified, the N-th previous file is

= or ^G
Prints some information about the file being viewed, including its name and the l

-
Followed by one of the command line option letters (see below), this will change

_ (Underscore.) Followed by one of the command line option letters (see below), thi

+cmd

Causes the specified cmd to be executed each time a new file is examined. For example, `+ls` causes `ls` to be executed rather than the beginning.

V

Prints the version number of less being run.

q or :q or ZZ

Exits less.

The following two commands may or may not be valid, depending on your particular shell.

v

Invokes an editor to edit the current file being viewed. The editor is taken from the `EDITOR` environment variable.

! shell-command

Invokes a shell to run the shell-command given. A percent sign in the command is replaced by the current filename.

:

Null command. This command is interpreted, but performs no action.

alias [name [def]]

Assign def to the alias name. def is a list of words that may contain escaped history characters.

bg [%job] ...

Run the current or specified jobs in the background.

break

Resume execution after the end of the nearest enclosing foreach or while loop. The break command is not supported in the `zsh` shell.

breaksw

Break from a switch, resuming after the endsw.

case label:

A label in a switch statement.

cd [dir]

chdir [dir]

Change the shell's working directory to directory dir. If no argument is given, cd changes to the user's home directory.

continue Continue execution of the nearest enclosing while or foreach.

default: Labels the default case in a switch statement. The default should come after all other cases.

dirs [-l]

Print the directory stack, most recent to the left; the first directory shown is the current directory.

echo [-n] list

The words in list are written to the shell's standard output, separated by SPACE characters.

eval argument ...

Reads the arguments as input to the shell, and executes the resulting command(s).

exec command

Execute command in place of the current shell, which terminates.

exit [(expr)]

The shell exits, either with the value of the status variable, or with the value of the expression.

fg % [job]

Bring the current or specified job into the foreground.

foreach var (wordlist)

...

end
The variable var is successively set to each member of wordlist. The sequence of

The built-in command continue may be used to continue the loop prematurely and th

glob wordlist
Perform filename expansion on wordlist. Like echo, but no \ escapes are recognize

goto label
The specified label is filename and command expanded to yield a label. The shell

hashstat Print a statistics line indicating how effective the internal hash table

history [-hr] [n]
Display the history list; if n is given, display only the n most recent events.

-r
Reverse the order of printout to be most recent first rather than oldest first. -r

if (expr) command
If the specified expression evaluates to true, the single command with arguments

if (expr) then
...
else if (expr2) then ...
else
...
endif
If expr is true, commands up to the first else are executed. Otherwise, if expr2

jobs[-l]
List the active jobs under job control.

-l
List process IDs, in addition to the normal information.

kill [-sig] [pid] [%job] ...
kill -l Send the TERM (terminate) signal, by default, or the signal specified, to

-l
List the signal names that can be sent.

limit [-h] [resource [max-use]] Limit the consumption by the current proces

-h
Use hard limits instead of the current limits. Hard limits impose a ceiling o

resource is one of:

cputime
Maximum CPU seconds per process.

filesize
Largest single file allowed.

datasize
Maximum data size (including stack) for the process.

stacksize
Maximum stack size for the

process.

coredumpsize Maximum size of a core dump (file).
descriptors Maximum value for a file descriptor.

max-use is a number, with an optional scaling factor, as follows:

nh
Hours (for cputime).

nk
n kilobytes. This is the default for all but cputime.

nm
n megabytes or minutes (for cputime).

mm:ss
Minutes and seconds (for cputime).

login [username|-p]
Terminate a login shell and invoke login(1). The .logout file is not processed. I

-p
Preserve the current environment (variables).

logout
Terminate a login shell.

nice [+n|-n] [command]
Increment the process priority value for the shell or for command by n. The highes
sets the nice value to 4. The range of nice values is from -20 through 19. Values

+n
Increment the process priority value by n.

-n
Decrement by n. This argument can be used only by the super-user.

nohup [command]
Run command with HUPs ignored. With no arguments, ignore HUPs throughout the rema

notify [%job] ...
Notify the user asynchronously when the status of the current, or of specified jo

onintr [- | label]
Control the action of the shell on interrupts. With no arguments, onintr restores
a goto label when an interrupt is received or a child process terminates because

popd [+n]
Pop the directory stack, and cds to the new top directory. The elements of the di

+n
Discard the n'th entry in the stack.

pushd [+n | dir]
Push a directory onto the directory stack. With no arguments, exchange the top tw

+n
Rotate the n'th entry to the top of the stack and cd to it. dir Push the current

rehash
Recompute the internal hash table of the contents of directories listed in the pa

repeat count command
Repeat command count times command is subject to the same restrictions as with th

set [var [= value]]

set var[n] = word

With no arguments, set displays the values of all shell variables. Multiword values

word

A single word (or quoted string). (wordlist) A space-separated list of words enclosed in parentheses.

Values are command and filename expanded before being assigned. The form set var[

setenv [VAR [word]]

With no arguments, setenv displays all environment variables. With the VAR argument to use setenv for these. In addition, the shell sets the PWD environment variable

shift [variable]

The components of argv, or variable, if supplied, are shifted to the left, discarding

source [-h] name

Reads commands from name. source commands may be nested, but if they are nested to

-h

Place commands from the file name on the history list without executing them.

stop [%job] ...

Stop the current or specified background job.

suspend Stop the shell in its tracks, much as if it had been sent a stop signal with

switch (string)

case label:

...

breaksw

... default:

...

breaksw

endsw

Each label is successively matched, against the specified string, which is first

time [command]

With no argument, print a summary of time used by this C shell and its children.

umask [value]

Display the file creation mask. With value set the file creation mask. value is given

unalias pattern

Discard aliases that match (filename substitution) pattern. All aliases are removed

unhash

Disable the internal hash table.

unlimit [-h] [resource]

Remove a limitation on resource. If no resource is specified, then all resource limits

-h

Remove corresponding hard limits. Only the super-user may do this.

unset pattern

Remove variables whose names match (filename substitution) pattern. All variables

unsetenv variable

Remove variable from the environment. Pattern matching, as with unset is not performed

wait

Wait for background jobs to finish (or for an interrupt) before prompting.

```
while (expr)
...
```

end

While expr is true (evaluates to non-zero), repeat commands between the while and

```
%[ job ] [ & ]
```

Bring the current or indicated job to the foreground. With the ampersand, continu

```
@ [ var =expr ]
```

```
@ [ var[n] =expr ]
```

With no arguments, display the values for all shell variables. With arguments, th

If the expression contains the characters >, <, & or |, then at least this part o

The operators *=, +=, etc., are available as in C. The space separating the name

Special postfix operators, ++ and -- increment or decrement name, respectively.

lpq: lpq displays the contents of a printer queue. It reports the status of jobs

For each print job in the queue, lpq reports the user's name, current position, t

If lpq warns that there is no daemon present (that is, due to some malfunction),

```
-P printer
```

Display information about the queue for the specified printer. In the absence of

```
-l
```

Display queue information in long format; includes the name of the host from whic

```
+ [ interval ]
```

Display the spool queue periodically until it empties. This option clears the tem

lpr: lpr creates a printer job in a spooling area for subsequent printing as faci
daemon, lpd(8). Jobs that specify a printer on a remote machine are forwarded by

lpr reads from the standard input if no files are specified.

```
-Pprinter
```

Send output to the named printer. Otherwise send output to the printer named in t

```
-#copies
```

Produce the number of copies indicated for each named file. For example:

```
example% lpr -#3 index.c lookup.c
```

produces three copies of index.c, followed by three copies of lookup.c. On the ot

```
example% cat index.c lookup.c | lpr -#3
```

generates three copies of the concatenation of the files.

```
-Cclass
```

Print class as the job classification on the burst page. For example,

```
example% lpr -C Operations new.index.c
```

replaces the system name (the name returned by hostname) with "Operations" on the

```
-Jjob
```

Print job as the job name on the burst page. Normally, lpr uses the first file's

`-Ttitle`

Use title instead of the file name for the title used by `pr(1V)`.

`-i[indent]`

Indent output indent SPACE characters. Eight SPACE characters is the default. The

Mount the specified font on font position 1, 2, 3 or 4. The daemon will construct

`-wcols`

Use cols as the page width for `pr`.

`-r`

Remove the file upon completion of spooling, or upon completion of printing with

`-m`

Send mail upon completion.

`-h`

Suppress printing the burst page.

`-s`

Create a symbolic link from the spool area to the data files rather than trying to

filter-option The following single letter options notify the line printer spooler

`-p`

Use `pr` to format the files (`lpr -p` is very much like ``pr | lpr'`). `-l` Print contro

If no filter-option is given (and the printer can interpret PostScript), the stri

These filter options offer a standard user interface, and all options may not be

`lprm`: `lprm` removes a job or jobs from a printer's spooling queue. Since the spool

Without any arguments, `lprm` deletes the job that is currently active, provided th

When the super-user specifies a username, `lprm` removes all jobs belonging to that

You can remove a specific job by supplying its job number as an argument, which y

```
example% lpq -Phost
```

```
host is ready and printing
```

```
Rank Owner Job Files Total Size active wendy 385 standard input 35501 bytes exam
```

```
-Phost 385
```

`lprm` reports the names of any files it removes, and is silent if there are no app

`lprm` kills the active printer daemon, if necessary, before removing spooled jobs;

`-Pprinter`

Specify the queue associated with a specific printer. Otherwise the value of the

`-`

Remove all jobs owned by you. If invoked by the super-user, all jobs in the spool

`ls: -a, --all`

List all files in directories, including all files that start with ``.``.

`-b, --escape`

Quote nongraphic characters in file names using alphabetic and octal backslash se

`-c, --time=ctime, --time=status`

Sort directory contents according to the files' status change time instead of the

`-d, --directory`
List directories like other files, rather than listing their contents.

`-f`
Do not sort directory contents; list them in whatever order they are stored on the disk.

`--full-time`
List times in full, rather than using the standard abbreviation heuristics.

`-g`
Ignored; for Unix compatibility.

`-i, --inode`
Print the index number of each file to the left of the file name.

`-k, --kilobytes`
If file sizes are being listed, print them in kilobytes. This overrides the environment variable `KB`.

`-l, --format=long, --format=verbose`
In addition to the name of each file, print the file type, permissions, number of links, and the size of the file.

`-m, --format=commas`
List files horizontally, with as many as will fit on each line, separated by commas.

`-n, --numeric-uid-gid`
List the numeric UID and GID instead of the names.

`-p`
Append a character to each file name indicating the file type.

`-q, --hide-control-chars`
Print question marks instead of nongraphic characters in file names.

`-r, --reverse`
Sort directory contents in reverse order.

`-s, --size`
Print the size of each file in 1K blocks to the left of the file name. If the environment variable `KB` is set, use that unit.

`-t, --sort=time`
Sort directory contents by timestamp instead of alphabetically, with the newest files first.

`-u, --time=atime, --time=access, --time=use`
Sort directory contents according to the files' last access time instead of the modification time.

`-x, --format=across, --format=horizontal`
List the files in columns, sorted horizontally.

`-A, --almost-all`
List all files in directories, except for ``.`` and ``.``.

`-B, --ignore-backups`
Do not list files that end with `~`, unless they are given on the command line.

`-C, --format=vertical`
List files in columns, sorted vertically.

`-F, --classify`
Append a character to each file name indicating the file type. For regular files, the character is `.`; for directories, `d`; for symbolic links, `l`; for sockets, `s`; for FIFOs, `p`; and for device files, `b` or `c`.

`-G, --no-group`

Inhibit display of group information in a long format directory listing.

`-L, --dereference`

List the files linked to by symbolic links instead of listing the contents of the

`-N, --literal`

Do not quote file names.

`-Q, --quote-name`

Enclose file names in double quotes and quote nongraphic characters as in C.

`-R, --recursive`

List the contents of all directories recursively.

`-S, --sort=size`

Sort directory contents by file size instead of alphabetically, with the largest

`-U, --sort=none`

Do not sort directory contents; list them in whatever order they are stored on th

`-X, --sort=extension`

Sort directory contents alphabetically by file extension (characters after the la

`-l, --format=single-column`

List one file per line.

`-w, --width cols`

Assume the screen is cols columns wide. The default is taken from the terminal dr

`-T, --tabsize cols`

Assume that each tabstop is cols columns wide. The default is 8.

`-I, --ignore pattern`

Do not list files whose names match the shell pattern pattern unless they are giv

`--color, --colour, --color=yes, --colour=yes`

Colorize the names of files depending on the type of file. See DISPLAY COLORIZATI

`--color=tty, --colour=tty`

Same as `--color` but only if standard output is a terminal. This is very useful fo

`--color=no, --colour=no`

Disables colorization. This is the default. Provided to override a previous color

`--help`

Print a usage message on standard output and exit successfully.

`--version`

Print version information on standard output then exit successfully.

DISPLAY COLORIZATION

When using the `--color` option, this version of `ls` will colorize the file names pr

You can override the default colors by defining the environment variable `LS_COLOR`

no

0 Normal (non-filename) text

fi

0 Regular file di 32 Directory

ln

36 Symbolic link

pi
31 Named pipe (FIFO) so 33 Socket

bd
44;37 Block device

cd
44;37 Character device

ex
35 Executable file

mi
(none) Missing file (defaults to fi)

or
(none) Orphaned symbolic link (defaults to ln)

lc
\e[Left code

rc
m Right code

ec
(none) End code (replaces lc+no+rc)

You only need to include the variables you want to change from the default.

File names can also be colorized based on filename extension. This is specified in

Control characters can be written either in C-style \escaped notation, or in stty

Each file will be written as <lc> <color code> <rc> <filename> <ec>. If the <ec>

If your terminal does use ISO 6429 color codes, you can compose the type codes (i

0
to restore default color

1
for brighter colors

4
for underlined text

5
for flashing text

30
for black foreground

31
for red foreground

32
for green foreground

33
for yellow (or brown) foreground

34
for blue foreground

35
for purple foreground

36
for cyan foreground

37
for white (or gray) foreground

40
for black background

41
for red background

42
for green background

43
for yellow (or brown) background

44
for blue background

45
for purple background

46
for cyan background

47
for white (or gray) background

Not all commands will work on all systems or display devices.

A few terminal programs do not recognize the default end code properly. If all te

mail: mail is a comfortable, flexible, interactive program for composing, sending

Incoming mail is stored in the system mailbox for each user. This is a file named
mbox in your home directory. This file can also be changed by setting the MBOX en

If no recipient is specified, mail attempts to read messages from the system mail

-d
Turn on debugging output. (Neither particularly interesting nor recommended.)

-e
Test for presence of mail. If there is no mail, mail prints nothing and exits (wi

-F
Record the message in a file named after the first recipient. Override the record

-H
Print header summary only.

-i
Ignore interrupts (as with the ignore variable).

-n
Do not initialize from the system default Mail.rc file.

-N

Do not print initial header summary.

`-U`

Convert uucp style addresses to Internet standards. Overrides the conv environmen

`-v`

Pass the `-v` flag to `sendmail(8)`.

`-f [filename]` Read messages from filename instead of system mailbox. If no filename

`-f +folder`

Use the file folder in the folder directory (same as the folder command). The nam

`-h number`

The number of network "hops" made so far. This is provided for network software t

`-r address`

Pass address to network delivery software. All tilde (~) commands are disabled.

`-s subject`

Set the Subject header field to subject.

`-T file`

Print the contents of the article-id fields of all messages that were read or del.

`-u user`

Read user's system mailbox. This is only effective if user's system mailbox is no

`man: man` displays information from the reference manuals. It can display complete

A section, when given, applies to the titles that follow it on the command line (

The reference page sources are typically located in the `/usr/man/man?` directories
preformatted version of interest is out of date or missing, `man` reformats it prio

If the standard output is not a terminal, or if the ``-'` flag is given, `man` pipes

`-t man` arranges for the specified manual pages to be troffed to a suitable raster

`-M path`

Change the search path for manual pages. path is a colon-separated list of direct

`-T macro-package`

`man` uses macro-package rather than the standard `-man` macros defined in
`/usr/lib/tmac/tmac.an` for formatting manual pages.

`-k keyword ...`

`man` prints out one-line summaries from the `whatis` database (table of contents) th

`-f filename ...`

`man` attempts to locate manual pages related to any of the given filenames. It str

`mkdir: mkdir` creates directories. Standard entries, ``.``, for the directory itself

The `-p` flag allows missing parent directories to be created as needed.

With the exception of the set-gid bit, the current `umask(2V)` setting determines t

`mkdir` requires write permission in the parent directory.

`more: more` is a filter that displays the contents of a text file on the terminal,

`more` scrolls up to display one more line in response to a RETURN character; it di

page clears the screen before displaying the next screenful of text; it only prov
more sets the terminal to noecho mode, so that the output can be continuous. Comm
If the standard output is not a terminal, more acts just like cat(1V), except tha
-c Clear before displaying. Redrawing the screen instead of scrolling for faster
-d
Display error messages rather than ringing the terminal bell if an unrecognized c
-f
Do not fold long lines. This is useful when lines contain nonprinting characters
-l
Do not treat FORMFEED characters (CTRL-D) as "page breaks." If -l is not used, mo
-s
Squeeze. Replace multiple blank lines with a single blank line. This is helpful w
-u
Suppress generation of underlining escape sequences. Normally, more handles under
-lines
Display the indicated number of lines in each screenful, rather than the default
+linenumber
Start up at linenumber.
+/pattern
Start up two lines above the line containing the regular expression pattern. Note
mv: mv moves files and directories around in the file system. A side effect of mv
The first form of mv moves (changes the name of) filename1 to filename2. If filen.
The second form of mv moves (changes the name of) directory1 to directory2, only
The third form of mv moves one or more filenames (may also be directories) with t
mv refuses to move a file or directory onto itself.
-
Interpret all the following arguments to mv as file names. This allows file names
-f
Force. Override any mode restrictions and the -i option. The -f option also suppr
-i
Interactive mode. mv displays the name of the file or directory followed by a que
passwd: passwd changes (or installs) a password, login shell (-s option), or full
Use `passwd -y' or ypasswd(1) to change your password in the Network Information
When changing a password, passwd prompts for the old password and then for the ne
If password aging is enabled, the first time an ordinary user enters the new pass
New passwords should be at least five characters long, if they combine upper-case
Only the owner of the name or the super-user may change a password; the owner mus
When changing a login shell, passwd displays the current login shell and then pro

The super-user may change anyone's login shell; normal users may only change their

When changing a full name, passwd displays the current full name, enclosed between

The super-user may change anyone's full name; normal users may only change their

-a Display the name and aging information for all users. Can only be invoked by t

-f

Change the full name.

-l

Change the local password, login shell, or full name. If username exists in the l

-s

Change the login shell.

-y

Change passwd, login shell, or full name in the NIS database.

-d [username]

Display the name and aging information for the caller or the user specified if th

-e username

Expire the password for the user name specified. Can only be invoked by the super

-F filename

Treat filename as the password file.

-n numdays username

Set the maturity time of the password for username. Passwords that have not "aged

-x numdays username

Set the expiration time of the password for username. Can only be set by the supe

ps: ps displays information about processes. Normally, only those processes that

ps displays the process ID, under PID; the control terminal (if any), under TT; t

The state is given by a sequence of four letters, for example, `RWNA'.

First letter indicates the runnability of the process:

R

Runnable processes.

T

Stopped processes.

P

Processes in page wait.

D

Processes in non-interruptible waits; typically short-term waits for disk or NFS

S

Processes sleeping for less than about 20 seconds.

I

Processes that are idle (sleeping longer than about 20 seconds).

Z

Processes that have terminated and that are waiting for their parent process to d

Second letter indicates whether a process is swapped out; blank Represented as a

W

Process is swapped out.

>

Process has specified a soft limit on memory requirements and has exceeded that l

Third letter indicates whether a process is running with altered CPU scheduling p

N

The process priority is reduced,

<

The process priority has been raised artificially.

Fourth letter indicates any special treatment of the process for virtual memory r

A

Stands for VA_ANOM. An A typically represents a program which is doing garbage co

S

Stands for VA_SEQL. An S is typical of large image processing programs that are u

kernel-name specifies the location of the system namelist. If the -k option is gi

pwd: pwd prints the pathname of the working (current) directory.

If you are using csh(1), you can use the dirs builtin command to do the same job
command. The example below illustrates the differences.

```
example% cd /usr/wendy/january/reports example% pwd
/usr/wendy/january/reports
example% dirs
~/january/reports
example% mv ~/january ~/february
example% pwd
/usr/wendy/february/reports
example% dirs
~/january/reports
example%
```

pwd and dirs also give different answers when you change directory through a symb

```
example% cd /usr/wendy/january/reports example% pwd
/usr/wendy/january/reports
example% dirs
~/january/reports
example% ls -l /usr/wendy/january
lrwxrwxrwx 1 wendy 17 Jan 30 1983 /usr/wendy/january -> /usr/wendy/1984/jan/ exam
/usr/wendy/january
example% pwd
/usr/wendy/1984/jan
example% dirs
/usr/wendy/january
```

The pathnames of files mounted with the Automounter can also change if the file i

rm: rm removes (directory entries for) one or more files. If an entry was the las

To remove a file, you must have write permission in its directory; but you do not
begins with y the file is deleted; otherwise the file is left alone.

rmdir removes each named directory. rmdir only removes empty directories.

-

Treat the following arguments as filenames '-' so that you can specify filenames

-f

Force files to be removed without displaying permissions, asking questions or rep

-i

Ask whether to delete each file, and, under -r, whether to examine each directory

-r

Recursively delete the contents of a directory, its subdirectories, and the direc

rmdir: rm removes (directory entries for) one or more files. If an entry was the

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spell: spell collects words from the named files, and looks them up in a hashed s

If there are no filename arguments, words to check are collected from the standar

By default, spell (like deroff(1)) follows chains of included files (.so and .nx

If a +local_file argument is specified, words found in local_file are removed from
spelling list) for each job.

The standard spelling list is based on many sources, and while more haphazard tha

Three programs help maintain and check the hash lists used by spell:

hashmake

Reads a list of words from the standard input and writes the corresponding nine-d

spellin

Reads n hash codes from the standard input and writes a compressed spelling list

hashcheck Reads a compressed spelling_list and recreates the nine-digit hash code

-b

Check British spelling. Besides preferring "centre", "colour", "programme", "spec

-l

Follow the chains of all included files.

-v

Print all words not literally in the spelling list, as well as plausible derivati

-x

Print every plausible stem with '=' for each word.

-d hlist

Use the file hlist as the hashed spelling list.

-h spellhist

Place misspelled words with a user/date stamp in file spellhist.

-s hstop

Use hstop as the hashed stop list.

Not all command descriptions were listed here. But look for the update to this te.