

UniFLEX Command summary

Dump of help files from uniFLEX system

Syntax: add-info file ...

Description: This utility allows the user to add information to the info field of a binary file. It reads standard input until a standard end-of-file is reached.

Syntax: addusr <username>

Description: This utility is used to add new users to the system. Only the system manager may use this utility. The specified user name is added to the "/etc/log/password" file. The new users directory is created together with a '.mail' file.

Syntax: asmb file ... [+options]

Description: Assemble the 6809 source file(s) specified.

The options are as follows:

+a	print absolute address on branch instructions
+b	do not create binary output file
+d	do not print date in page header
+f	do not perform auto-fielding
+g	list all code generated
+l	suppress assembled listing
+n	line number the output listing
+s	suppress symbol table printing
+w	suppress warning messages
+0000	set max symbol size
+m=00	set macro space size (2 to 12)
+o=file	specify output file name
+p=0000	page number to start output
+a=prma)
+b=prmb	> command line parameters
+c=prmc)

Syntax: assert [+<options>]

Description: Evaluate the truth value of the given options. Assert is used to interrupt or abort shell scripts. The options available are:

- k=<string> - display string and wait for input
- m - check for multi-user mode
- s - check for single user mode
- u<number> - check for current user number
- u=<name> - check for current user name

Syntax: at time [day] [file]

at executes commands at a later time. It copies the named file (standard input default) to be used as input to the shell. A 'chd' command to the current directory is inserted at the beginning, followed by assignments to all environment variables. When the script is run, it uses the user-id of the creator of the copy file.

The time is 1 to 4 digits, with an optional trailing A, P, N or M for AM, PM, noon or midnight. One or two digit numbers are taken to be hours, three and four digits to be hours and minutes. If no letters follow the digits, a 24 hour clock is understood.

The optional day is either a month name followed by a day number, or a day of the week. If the word 'week' follows invocation is moved seven days further off.

Names of months and days may be recognizable truncated.

Syntax: bcompare <file1> <file2>

Description: Compare <file1> and <file2> and display each byte that is different. Differences are output in the form:

<file offset> --> <left byte> : <right byte>

where file offset is the position in the file where the difference occurred, left byte is the contents at this position in file1 and right byte is the contents at this position in file2. Note that file offset is the offset from the beginning as the file is stored -- it is not the actual offset from the start of data since some UniFlex type files have header information before the data begins.

Syntax: broadcast [file ...]

Description: This utility allows the user to directly communicate with all users on the system who have not locked out messages.

Syntax: cal [month] [year]

description cal prints a calendar for the specified year. If a month is also specified, a calendar just for that month is printed. Year can be between 1 and 9999. The month is a number between 1 and 12. The calendar produced is that for England and her colonies.

example cal 3 1984

BUGS the year is always considered to start in january even tough this is historically naive.
Beware that cal 78 refers to the early Christian era, not the 20th century.

Syntax: `cb <stdin >stdout`

`cb` places a copy of the C program from standard input on the standard output with spacing and indentation that displays the structure of the program.

Syntax: `chd directory`

Description: Change to the specified working directory.

Syntax: check file ...

Description: Check for read errors in the files specified. Any error will be reported by file name.

Syntax: checksum [file ...]

Description: This utility will write the checksum of a file
to standard output.

Syntax: cmp file ...

Description: Check for read errors in the files specified. Any error will be reported by file name.

Syntax: compare file1 file2 [+window size]

Description: This utility compares two text files and indicates how they are different.

Syntax: continue [+hex] [argument]

Description: This utility will echo (display) the command arguments on standard output and input a one character response from standard input.

Syntax: `copy file1 file2`

`copy file ... directory`

Description: The first type copies file1 into file2 deleting file2 if it existed. The second type will copy a list of files into the specified directory.

Syntax: `copy-dir [file or directory ...] dest-directory [+options]`

Description: This utility copies directory structures or individual files to a destination directory. The options available are:

+d	Copy directory structure for all named directories.
+b	Do not copy a file unless it already exists in the destination directory.
+n	Copy a file if it is newer than the one in the destination directory. If no file exists, the copy will be performed.
+c	Do not copy file if it already exists in the destination. Cannot be used with +n.
+o	Retain original file ownership.
+t	Don't create top level directories at destination.
+B	Do not copy files ending in ".bak".
+p	Prompt user to see if he really wants file copied.
+l	List file names as they are copied.
+L	Don't unlink the destination file.
+D	Implicitly specify the high level directory names.
+P	Preserve modification time of source file.

Syntax: `cp file1 file2`

`copy file ... directory`

Description: The first type copies file1 into file2 deleting file2 if it existed. The second type will copy a list of files into the specified directory.

Syntax: `crdir name ...`

Description: Create the directories specified. Each directory is created with the standard `'.'` and `'..'` entries.

Syntax: create file ...

Description: Create a file or list of files. The files will be empty when created.

Syntax: /etc/cron

description cron - clock daemon

Cron executes comands at specified dates and times according to the instructions in the file /usr/lib/crontab. Since cron never exits, it should only be executed once. This is best done by running cron from the initialization process trough the file /etc/startup.

Syntax: cu [telno] [-S] [-u] [-t] [-s speed] [-l line] [-a acu]

cu is a 'Call Uniflex' utility. The options are:

- t: Dial-out to a terminal (+echo).
- S: Dial-out to the SARA system.
- u: Dial-out to a Unix system.
- s: Set speed of communication line. For Uniflex, this is not possible. For compatibility with the Unix utility this option will be ignored.
- l: Other communication device.
- a: Autocalling device ignored.

Escape with ~ at the beginning of a line.

~~ First character of line is ~
~<file Local file to remote diversion.
~>file Remote to local file diversion.
~>:file Remote silent to local file diversion.
~>>file Remote add to local file diversion.
~>>:file Remote silent add to local file.
~! Invoke local shell.
~!cmd Invoke local command.
~\$cmd Invoke local command with output remote.

~%put from [to] Local file to remote file.
~%take from[to] Remote file to local file.

~. or ~(^D) Disconnect line and exit program.

Syntax: `cview file`

Description: This utility will print a file in readable format.

Syntax: date [[MM-DD[-YY]] HH:MM[:SS]]

Description: With no arguments, the local date and time will be printed. Otherwise, the date and time will be set. Only the system manager may set the date.

Syntax: dd [option = value] ...

dd copies the specified input file to the specified output file with possible conversions. The standard input and output are used by default. The input and output block size may be specified to take advantage of the physical block sizes of the devices being used.

Options are specified by keywords:

if= The input file name, standard input is default.
of= The output file name, standard output is default.
ibs=n Use an input block size of n bytes (default 512).
obs=n Use an output block size of n bytes (default 512).
bs=n Set both input and output block size, superseding
ibs and obs. Also if no conversion is specified, it
is particularly efficient since no copy need be made.
cbs=n The conversion buffer size.
skip=n Skip n input records before starting copy.
files=n Skip n input files before starting copy.
seek=n Seek n records from beginning of output file
before copying.
count=n Copy only n input records.
conv=
ascii Convert EBCDIC to ASCII
ebcdic Convert ASCII to EBCDIC
block Convert variable length records to fixed length.
unblock Convert fixed length records to variable length.
lcase Map alphabetics to lower case.
ucase Map alphabetics to upper case.
swab Swap every pair of bytes.
noerror Do not stop processing on an error.
sync Pad every input record to ibs.
...,... Several comma separated conversions.

Where sizes are specified, a number of bytes is expected. A number may end with k, b or w to specify multiplication by 1024, 512 or 2 respectively. A pair of numbers may always be separated by x to indicate a product.

Syntax: delusr user_name

Description: This utility is used to delete a user from the system. Only the system manager may use this utility. The utility removes the specified user name from the password file and destroys the user's files and directories.

Syntax: df device ...

Description: Free is used to print the number of free disk blocks and free fdn's on a device.

option : +d shows diskname and disk space

Syntax: `dir [+blstr] [directory] ...`

Description: Display the contents of a directory or of several directories. Default is to the current working directory. The options are as follows:

- `l` = long listing
- `b` = display file size in bytes
- `s` = single column (default is multiple column)
- `t` = sort by time (latest first) (defaults to alphabetic)
- `r` = reverse sort order

Syntax: `dperm [u-rwx] [o-rwx]`

Description: Set the default permissions associated with the current user.

Syntax: `du [-s -a] [directory-name]`

This utility lists the file usage on a disk by directory path.

If no directory is given, the current directory is used. If no options are used only entry's for each directory in the current directory are given.

The options are:

- s: Causes only the grand total to be given.
- a: Gives the size for each entry.

Syntax: dump file

Description: This utility will print a hexadecimal and ASCII listing of a file. There is only one option:

+i interactive mode

Syntax: `echo [+l] [+hex] [argument] ...`

Description: Echo will print its arguments to the standard output. A '+l' argument will suppress the line feed. A '+hex' will output the equivalent hex byte.

Syntax: edit [+bny]
 edit file [+bny]
 edit file1 file2 [+bny]

Description: Edit a text file. The options are as follows:

+b = do not create backup file
+n = do not read in text
+y = delete backup file

Syntax: filetype file ...

Description: This utility allows the user to determine the
type of a file.

Syntax: `find [+options] pattern [file ...]`

Description: This utility will search for the text 'pattern' in one or more files or standard input and will output to standard output those lines which contain the pattern. The available options are:

+y lower case letters in pattern will match both
 upper and lower case letters in the file(s)
+c output of matching lines is suppressed. A
 count of matching lines will be output

If the following matching characters are used, the pattern must be enclosed in single or double quotes:

\\ remove special meaning from a matching character
? match any character except a newline
< match at beginning of line
> match at end of lines only
& match if both subpattern before and after are in line
| match if either subpattern before or after are in line
[range] indicates a character class range

Syntax: flex-copy source-file dest-file [drive spec] [+bi]

Description: This utility copies a UniFLEX source file to a FLEX file (dest-file) on a FLEX diskette. If no drive is specified, it defaults to "/dev/fd1". The two options are as follows:

- +b Copy an absolute binary program in a format which can be executed by FLEX.
- +i Copy the file with no modifications (make an image copy).

Syntax: free device ...

Description: Free is used to print the number of free disk blocks and free fdn's on a device.

Syntax: head file [n]

Description: This utility will print the first 'n' characters of a text file. If 'n' is not given then the default of 250 characters is used.

Syntax: indent n

Description: This utility will indent every line of standard
input 'n' blanks before writing to standard output.

Syntax: info file

Description: Print the information field of the binary file specified.
Not all binary files have this field.

Syntax: insert

```
chd /usr2/to_etc
copy * /etc
chd /usr2/to_usr
copy * /usr/bin
chd /usr2/to_help
copy * /gen/help
chd /usr2/to_act
copy * /act
echo
echo 'Samples of the files "charges" and "userinfo"'
echo 'have been copied to the directory "/act".'
```

Syntax: int [+interrupt] taskid

Description: Send an interrupt to the specified task. If no interrupt is specified, the 'terminate' interrupt is sent.

Syntax: jobs

Description: Print list of current running background tasks.

Syntax: join [-j1 x -j2 y] [-o list] file1 file2

join forms, on the standard output, a join of the two relations specified by the lines of file1 and file2. If file1 is -, the standard input is used. File1 and file2 must be sorted lexicographically on the fields on which they are to be joined, normally the first in each line.

Fields are normally separated by white space. Multiple separators count as one, and leading separators are discarded.

The following options are available:

- a n: In addition to the normal output, produce a line for each unpairable line in file n, where n is 1 or 2.
- e s: Replace empty output fields by string s.
- j n m: Join on the m-th field of file n. If n is missing use then m-th field in each file.
- o list: Each output line comprises the fields specified in list, each element of which has the form n.m, where n is a file number and m is a field number.
- t c: Use character c as a separator (tab character). Every appearance of c in line is significant.

kermit File transfer utility, incorporating packet assembly and disassembly. See BYTE June and July 1984.

SYNTAX

kermit c/s/r[ld..tife [/dev/ttyXX] [escape character]] [file]

ARGUMENTS

[/dev/ttyXX]	use /dev/ttyXX instead of default (/dev/modem)
[esc.char]	use "esc.char" instead of default ("^")
[file]	send "file" to other kermit

OPTIONS

- c/s/r Mode switch: connect, send, receive. Only one allowed.
- l Local switch to tell kermit on the local machine to use default ttyport (/dev/modem).
- d[dd..] Debugging level. When used once shows little information, when used repeatedly the transmission/reception is monitored.
- t Use other device instead of "/dev/modem" on local machine. [/dev/ttyXX] must be present. When used on a remote system with a second modem (auto-dialing) you will be looped through to another remote machine.
- i Image mode switch, default is OFF. (MSB not used).
- f Filename conversion switch, default is ON. (upper/lower case conversion is done).
- e Use other character to escape from a local kermit. Default is "^". sequence to disconnect is "esc.char" c or C. "esc.char" h or H shows that kermit is still alive. To send the escape character, hit it twice.
NOTE: disconnecting is accomplished by hitting TWO keys after each other! i.e. "^" and C. Not "control C".

Examples

kermit cle @

start local kermit in connect mode. (Virtual terminal).

Escape from this mode with "@C".

kermit s <file>

start remote kermit in standard mode and send file <file>.

kermit rlddd

start local kermit, receive what is sent and show what is sent.

kermit ct /dev/modem1

start local kermit use /dev/modem1 instead of default.

Syntax: kill [+dp] file ...

Description: The file listed will be deleted from the directory.
If the entry deleted was the last link to the file, the actual file
will be deleted from the disk. The options are as follows:

p = prompt for each file - answer 'y' or 'n'
d = delete directories as well as files (must be empty)

Syntax: limit [n] [+t]

Description: This utility will read standard input but limit the line length to 'n' characters before writing to standard output. If 'n' is not given then the default length is 72 characters. There is one option available:

+t Truncate any characters exceeding 'n' rather than wrapping the excess characters to a new line.

Syntax: `link file1 file2`

Description: Make a new link to file1 and call it file2.

Syntax: list file ...

Description: List files specified. An argument starting with a '+' causes the standard input to be listed.

Syntax: loadsize [file ...]

Description: This utility calculates the amount of memory
required to load a binary file.

Syntax: lockterm

Description: This utility will lock a terminal (ignore all input)
for fifteen minutes.

Syntax: log

Description: Log off the system. This is the same as a control D.

Syntax: login name

Description: Change to a new user. This is the same as 'logging off' and logging back in with a new name.

Syntax: `ls [file or directory ...] [+abdfIRSTS]`

Description: This utility is used to list the contents of directories, or to give a long listing of a single file. The available options are:

+a	List all files (including those beginning with a '.').
+b	List file size in bytes. This implies +l.
+d	List contents of directory if a file is a directory.
+f	List FDN number for file. This implies +l.
+l	Print detailed information about each file.
+r	Reverse the sense of any sorts.
+s	List files in one name per line format.
+t	Sort files by last modification time.
+S	Print summary information after files have been listed.

Syntax: mail [user_name] ...

Description: Send mail to the users specified. The standard input is read until an end of file is detected. If no names are specified, mail will print the contents of '.mail'. When completed with the display, you will be asked if you want it saved. Yes will save it in 'mailbox' while 'no' will delete it. A carriage return response will leave .mail alone.

Syntax: message [yes] [no]

Description: Enable or disable the ability to receive a message from other users. No argument displays status.

Syntax: /etc/mount device directory [r]

Mount a block device on the system

option r mount device as read only

Syntax: `move file1 file2`

`move file ... directory`

Description: The first type will move (rename) file1 to file2.
The second type will move all of the files listed into the directory specified.

Syntax: news [file ...]

Description: This utility is used to get news from the news directory.

Syntax: nice "UniFLEX command"

Description: This utility lowers the priority of the UniFLEX command that follows it.

Syntax: . . . | nobs

Description: Take an output stream possibly containing backspace characters and remove the backspace and the following character. Characters removed are thrown away. This filter is for use on Centronix printers that do not support backspaces.

Syntax: . . . | noff

Description: Take an output stream possibly containing formfeed characters and remove the formfeed characters. The formfeed is thrown away and is not replaced by linefeeds. This filter is used for printing a document containing formfeed characters on a terminal device where the screen erasing caused by formfeeds is not desired.

Syntax: owner name file ...

Description: Change the owner of the files specified to that of name.
Only the system manager may execute this utility.

Syntax: page [+options] [file] ...

Description: Page format a file or files. May also be used to display lines on a terminal, N lines at a time. The options are:

- +l issue line numbers
- +f use line feeds instead of form feeds
- +N N is a decimal number representing crt screen length
- +pN N is a decimal number representing printer page length

Syntax: password [name]

Description: Set or change a user's password. Only the system manager may change other's passwords.

Syntax: `path`

Description: Print the pathname of the current working directory.

Syntax: pcomm file ...

Description: This utility will print to standard output all
comments in an assembler source file.

Syntax: perms parameters file ...

Description: Set the permissions for the files specified. The parameters are as follows:

- u+[rwx] = set read, write, or execute permission for user
- u-[rwx] = clear read, write, or execute permission for user
- o+[rwx] = set for others
- o-[rwx] = clear for others
- s+ = set user id bit
- s- = clear user id bit

Example: perms u+rw o-w test

Syntax: plabels file ...

Description: This utility will print to standard output all
label lines in an assembler source file.

Syntax: `pr [option] ... [file] ...`

`pr` produces a printed listing of one or more files. The output is separated into pages, headed by a date, the name of the file or a specified header, and a page number. If there are no file arguments, `pr` prints its standard input.

Options apply to all following files, but may be reset between files:

- 2: Produce n-column output.
- n: Print line numbers.
- f: Print a formfeed, instead of linefeeds.
- +n: Begin printing with page n.
- h: Take the next argument as a page header.
- wn: For purposes of multicolumn output, take the width of the page to be n character instead of default 72.
- ln: Take the length of the page to be n lines, instead of the default 66.
- t: Do not print the 5-line header or the 5-line trailer normally supplied for each page.
- sc: Separate columns by the single character c instead of by the appropriate amount of white spaces. A missing c is taken to be a tab.
- m: Print all files simultaneously, each in one column.

Inter-terminal messages via 'send' are forbidden, during a `pr`.

Syntax: `prompt [arg]`

Description: Set the shell's prompt. The arg may be a quoted string. If no arg, the default prompt is restored ('++ ').

Syntax: `purge spooler_device file`

Description: Remove the file specified from the spooler device's print queue.

Syntax: `pwd`

Print the pathname of the current working directory.

Syntax: qdb [file]

Description: This is a 'quick' debug program. If no file is specified, the file 'core' is used. The commands are as follows:

- n display the command's calling line (name)
- q quit (exit qdb)
- r display the register contents in hex
- s display the stack contents
- x display 16 bytes of memory starting at hex 'x'
- x-x display all memory between the two hex values

Syntax: remove <file or directory ...> [+options]

Description: This utility removes one or more files from the file system. If a directory is encountered, all of the files contained in it are also deleted. Options are:

+d	delete directories if they are empty
+k	delete files in directory and then delete the directory
+i	prompt about each file or directory individually
+l	list the files and directories as they are deleted
+w	ask about files that don't have write permission

Syntax: `rename file1 file2`

Description: Rename file1 to file2.

Syntax: `rev [file]`

reverse the lines of a file. If no file is given,
the standard input is used.

Syntax: roff [options] file ...

Options:

- +p1: select the first page number to output
- p2: select the last formatted page to output
- +s: set auto stop feature

Syntax: s1 file ...

Description: This utility will dump a binary file in Motorola
S1/S9 record format.

Syntax: search <filename> <(+/-)options>

Description: The search utility is used to search through a directory or a series of subdirectories for a file or files given by filename, or based on what is given in the options. Either the filename or an option must be given. An option can be preceded by a '+' indicating "and" or by a '-' indicating an "or" condition. The options are as follows:

n	Don't list any files.
f	Print the full path name of the file.
p	Search the given pathname.
t	Search only for type(s) of files given.
u	Search for files of the user(s) given.
s	Search for files with specified size in blocks.
l	Search for files with specified link count.
d	Search for files with specified time in days.
x	Execute the given command for those files which meet all of the conditions specified.

Syntax: send user_name

Description: Send a message to the user specified. The user must be logged on the the system (see 'who'). The standard input is read until an end of file is seen (control D if from the terminal). The receiver may 'send' back since each line is sent a line at a time.

Syntax: `set_printer <spooler> [+<options>]`

Description: Set options on the Qume or NEC daisy wheel printers. Note that you cannot change options while the printer is in use. The options consist of an option letter, followed by a decimal value. Some values have optional fractional parts as shown by the ".nn" in the option table:

d=nn	- set depth (number of lines per inch)
f=nn.nn	- set form length value in inches - zero indicates infinite form length (e.g., roll paper)
m=nn.nn	- set left margin value in inches
p=nn	- set pitch (number of characters per inch)
w=nn.nn	- set form width value in inches -- zero disables form width checking.

Syntax: sleep [n]

Description: This utility puts the user's terminal to sleep
for 'n' seconds.

Syntax: sort [file] ...

```
psort parmfile [infile] ...  
csort [infile] ... "+input specs +output specs"  
merge file1 file2 ...  
pmerge parmfile file1 file2 ...
```

Description: Sort or merge a file or files according to supplied parameters. "Sort" and "merge" prompt for parameters, "psort" and "pmerge" obtain parameters from file (represented by "parmfile"), and "csort" obtains parameters from command line. All sort programs also accept standard input if no input file is specified. "Csort" specs are normal key specs and the following:

input specs:

w	directory for work files
l	input record length
e	end of input record spec
c	field count
f	field separator character
u	lower case = upper
k	keep records w/ blank keys

output specs:

o	output record source
e	end of output record spec
m	message level specifier

Syntax: `split source-file [destination-file line-number-range ...]`

Description: This utility is used to create a new file from a portion of an existing file. The line-number-range indicates which lines from the source file are to be extracted and copied to the destination file.

Syntax: status [+alxw]

Description: This utility will list the status about programs running on the system. The available options are:

- +a List all tasks, not just those belonging to the user.
- +l Produce a long, detailed list for each task listed.
- +x List every task in the system.
- +w Wait after listing (about 30 seconds) and produce another listing.

Syntax: sync

description This command is used to flush the cachebuffers and update the disk information.

Syntax: tail file [n]

Description: This utility will print the last 'n' characters of a text file. If 'n' is not given then the default of 250 characters will be used.

Syntax: tee [file ...]

Description: The tee command is used to read standard input and write to standard output and the specified files.

Syntax: `time "UniFLEX command"`

Description: The `time` command will determine the actual time spent processing the given UniFLEX command, the User CPU time and the System CPU time, and will then print those times to standard output.

Examples:

```
++ time dir
++ time pascal file.p +nu
```

Syntax: touch file ...

Description: The touch utility is used to set the last update time of a file to the current time and date.

Syntax: translate map-file

Description: The translate utility is used to translate characters from standard input to standard output through the file "map-file".

Syntax: `ttyset [arguments]`

Description: The command without arguments will display the current terminal configuration. The allowed arguments are:

- +raw = set raw mode
- +echo = enable echo
- +tabs = expand tabs
- +case = convert upper to lower case on input & vice versa
- +becho= do backspace echo
- +alf = output line feed after each carriage return
- +schar= single character input mode
- +cntrl= allow input of all control characters
- [a '-' instead of '+' in each case above will reverse the sense]
- crt = set crt mode
- hcs = set slow hard copy mode
- hcm = set medium speed hard copy mode
- hcf = set fast hard copy mode
- bs=xx = set backspace to hex char xx
- dl=xx = set cancel character to hex char xx

Syntax: `uniq [-udc [+n] [-n] [input [output]]`

Uniq reads the input file comparing adjacent lines. In normal case, the second and succeeding copies of repeated lines are removed; the remainder is written on the output file. Note that repeated lines must be adjacent in order to be found; see `sort (1)`. If the `-u` flag is used, just the lines that are not repeated in the original file are output. The `-d` option specifies that one copy of just the repeated lines is to be written.

The normal mode output is the union of the `-u` and `-d` mode outputs.

The `-c` option supercedes `-u` and `-d` and generates an output report in default style but with each line preceded by a count of the number of times it occurred.

The `n` arguments specify skipping an initial portion of each line in comparison:

- `-n`: The first `n` fields together with any blanks before each are ignored. A field is defined as a string of non-space, non-tab characters separated by tabs and spaces from its neighbours.
- `+n`: The first `n` characters are ignored. Fields are skipped before characters.

Syntax: units

units converts quantities expressed in various standard scales to their equivalents in other scales. It works interactively in this fashion:

```
you have: inch
you want: cm
          * 2.54000e+00
          / 3.93701e-01
```

A quantity is specified as a multiplicative combination of units, optionally preceded by a numeric multiplier. Powers are indicated by suffixed positive integers, divisions by the usual sign:

```
you have: 15 pounds force/in2
you want: atm
          * 1.02069e+00
          / 9.79730e-01
```

units only does multiplicative scale changes. Most familiar units, abbreviations, and metric prefixes are recognized, together with a generous leavening of exotica and a few constants of nature including:

pi	ratio of circumference to diameter
c	speed of light
e	charge of a electron
g	acceleration of gravity
force	same as g
mole	avogrado's number
water	pressure head per unit heigth of water
au	astronomical unit

pound is a unit of mass. Compound names are run together, e.g. lightyear. British units that differ from their US counterparts, are prefixed thus: brgallon. Currency is denoted belgiumfranc, britain-pound, ...

For a complete list of units list /usr/lib/units.

Syntax: update

```
chd /usr2/to_etc
copy * /etc
chd /usr2/to_usr
copy * /usr/bin
chd /usr2/to_help
copy * /gen/help
```

Syntax: `update_all [make_file] [+options]`

Description: The `update_all` utility takes a desired function to be performed from the file "makefile" or another given file and performs the function on the series of files also given in "makefile" or the specified file. The only option available for this utility is:

`+q` Perform in the "quiet" mode, which inhibits printing of messages to the terminal by `update_all`.

Syntax: `uptolow`

Description: This utility will write all uppercase letters from standard input as lowercase to standard output. Therefore it can be used as a filter.

Syntax: usage [+n] [device-name]

Description: This utility lists the file usage on a disk by user.
If no device is given, the default device is
/dev/fd0. The only option is:

+n Sort the results by user name rather than
 by usage.

Syntax: ++ validate <source> ... <dest> [+options]

Description: This utility is used to validate a backup made by "copy-dir". The options available are a subset of those in copy-dir. This program performs a file-wise comparison of the files from the source with the files on the backup. Any files which do not match or are not present in the backup are reported. The options available are:

- +d perform a depth-first directory search
- +D imply top-most directories
- +B ignore files which end in ".bak"
- +l list the names of files as they are being validated
- +t ignore the case of missing directories at the top-most level

Syntax: ++ verify <file or directory> ... [+options]

Description: This utility reads every file specified to determine if the files (or devices) are good. The options are:

+l	list file names as they are verified
+d	verify subdirectories of directory file
+D	don't verify block devices

Syntax: wait

Description: Wait for asynchronous task to complete.

Syntax: `who`

Description: Print the names and login times of each user on the system.

Syntax: words [file ...]

Description: The words command will determine the number of lines and the number of words in a file, a series of files, or from standard input and prints those values to standard output.

Examples:

```
++ words
++ words file1
++ words file1 file2
```

Syntax: yacc [-vd] grammar

yacc is 'yet another compiler compiler'.
it converts a context-free grammar into tables
for a simple automato that executes an 'LR' parsing
algorithm. The grammar may be ambiguous; specified
precedence rules are used to break ambiguities.

- v: the file 'y.output' is prepared, containing a
description of the parsing tables and a report on
conflicts generated by ambiguities in the grammar.
- d: the file 'y.tab.h' is generated with the define
statements that associate then yacc-assigned 'token
codes' with the user-declared 'token-names'.