DOS Command Reference

Introduction   Some course material on the Teaching Network may still use the command line operating system called DOS (Disk Operating System). This requires the user to type specific commands at a prompt.

You may also need to use this system, for example, when changing your password, and you can enter DOS by choosing 'MS-DOS Prompt' from the Public menu on the taskbar.

Command Format   Commands can be typed in response to the network DOS prompt:

```
G:\>
```

Commands may be typed in upper or lower case. Here, they are specified in upper case to distinguish them from other input.

Commands have a particular format. Some can be used simply by typing the command name only, as in:

```
DIR
```

which displays a listing of files in the current directory.

Parameters   Many commands can take extra information called parameters to make them more specific, For example, the COPY command can have a parameter specifying a file to be copied and a parameter specifying a file to which the copy is to be made. So the command would look like this:

```
COPY filea fileb
```

In this case, *filea* would be the name of a file to copy from and *fileb* would be the name of a file to copy to.

Parameters can sometimes be omitted in which case a default action will apply.

Options   Commands can also be qualified by the use of options. Options are preceded by a / sign. A simple example of the use of an option is with the DIR command. DIR can be qualified by /P or /W. Thus the commands:

```
DIR
DIR /W
DIR /P
```

result in listings presented in a different format as detailed later.

Some Useful DOS Commands

COPY   Make a copy of a file or merge files together.

        COPY *original-file destination-file*

where *original-file* and *destination-file* are file names, separated by a space.

The command can be used to merge several files into one file since the *original-file* parameter can be a list of filenames separated by the + symbol. For example:

        COPY file1 + file2 file3

would copy file1 and file2 into file3.

Note that the file names used in the copy command *must* include the file extension if it exists. So if you were copying a fortran program called first.for, for example, you would need to include the .for extension in the filename.

DEL   Delete a file.

        DEL *filename*

where *filename* is the name of the file to be deleted. You are asked to confirm that you really want to delete the file. Note that the name must include the file extension.

The amount of space on a disk is limited and it is necessary periodically to tidy up unwanted files. It is possible to use a '*' character in a filename to match any sequence of characters. This feature is very useful when deleting unwanted files with identical extensions. For example, when developing programs,

        DEL *.obj

will delete every binary (.obj) file in the current directory. Since an .obj file can always be recreated from the original source program, it is usually unnecessary to keep it.

DIR   Obtain a list of the files stored in a directory.

If used without options this command will give a list of files in the current directory, including any extension (e.g. .for), and their size.
If used with the option /P, that is:

        DIR /P

The same information will be displayed page by page with the message:

        strike a key when ready

at the end of each page.

If it is used with the /W option, i.e.

```
DIR /W
```

the listing is of names and extensions only and in a more compact format across the page.

DISKCOPY   Take a security copy of your working disk.

It is very important to have a second copy of your programs and data in case you lose your disk or it becomes unreadable for some reason. Use the DISKCOPY command as follows:

```
DISKCOPY A: A:
```

where `A:` denotes the drive the disks will be loaded into. When a copy of your disk is generated in the computer's memory, the computer tells you to remove the first or source disk and insert the disk, which is to become the copy (the target disk).

Insert the target disk and press ENTER. If the second disk is not formatted it will be formatted automatically. The source disk should be write protected using the tab in the corner in case you mistake it for the target disk (see the chapter on using disks).

LIST   Obtain a printed listing of a file.

```
LIST filename
```

where `filename` is the file to be printed. If the printer is busy, or if you don't need a printed copy, you can use the `TYPE` command to view a file on the screen.

You could also use an editor such as DOS Edit to display a file, in which case, as a bonus, you would then be in a position to correct any errors you might notice. Remember that the file name must include the file extension. So if you want to print your Pascal program called `first` you would need to use:

```
LIST first.pas
```

RENAME   Change the name of a file. This command can be abbreviated to REN:

```
REN oldname newname
```

where `oldname` is the file to be renamed and `newname` is the name it is to be given.

Note that files on drives other than the current drive can be referred to by prefixing the filename by the relevant drive letter, for example:

```
A:\filename
```

where the \ refers to the 'root' directory of the drive.

Filenames can also include directories separated by the \ character as in:

```
A:\dir1\dir2\filename
```

TYPE   View a file on the screen.

```
TYPE filename
```

where filename is the name of the file to be displayed on the monitor screen. If you are looking at a long file, you will need to press the PAUSE key to stop continuous scrolling. Press the space bar to continue scrolling when you have read the screen.

FORMAT   To format a floppy disk, place the disk in the floppy drive and type:

```
FORMAT A:
```

Note that by default the disk will be formatted to hold about 1.44 megabytes of data.

Warning: formatting will destroy any data on the disk so only do this once!

DOS Command Listing

In the following section, alternative options are separated by the '!' character. Arguments are optional unless in italics. 'cwd' stands for 'Current Working Directory'.

DOS Conventions   DOS commands are not case sensitive. Some commands have switches; these must be preceded by a forward slash (/). Pathnames may be preceded by a drive letter as in 'X:pathname' and if no drive or pathname is given the current directory is assumed.

The Commands   ATTRIB +!-r +!-a *pathname*
        display, or set!clear Read-only or
        Archive attribute

BREAK on!off
        display, or turn on!off increased level of ^C detection

CHDIR (CD) path
        display, or change working directory

CHKDSK pathname (A: drive only)
        check disk or file logical structure
        /f   - fixproblems encountered
        /v   - verbose; displays filespecs

CLS
        clear screen

COMMAND path cttydev
       run nested CLI from path with I/O device cttydev
       /e:#   - set environment size #
       /p   - do not invoke another CLI
       /c command - run command and then enter

COPY pathname pathname
or
COPY *pathname + pathname*
       copy or concatenate files
       /v   - verify writes
       /a!b   - preceding and all subsequent files are ascii!
       binary (* filenames in source(s) and target are matched
       one-to-one.)

CTTY device
       change MS-DOS I/O device

DATE dd-mm-yy
       display and/or set date (numerical country-dependent
       format)

DEL ! ERASE *pathname*
       delete file(s) - prompts if pathname is *.*

DIR pathname
       display directory - filename and/or ext default to *
       /p   - paginate
       /w   - multi-column

DISKCOPY drive: drive:
       copy disk sector-by-sector rather than file-by-file

EXIT
       exit nested CLI

FIND "*string*" pathname
       find and display lines containing string in file
       /v   - lines NOT containing string
       /c   - count lines only
       /n   - display line numbers also

FORMAT *drive*: (A: drive only)
       /1   - single sided
       /4   - use double rather than high density (40 tracks)
       /8   - use 8 sectors of each track
       /n:xx - specifies xx sectors per track
       /t:yy - specifies yy tracks
       /v   - prompt for volume label, up to 11 characters
       /f:720 - format at 720 kb

LABEL drive: label (A: drive only)
       display, or edit volume label - 11 characters excluding
       most specials

MKDIR (MD) path
       make directory

MODE
> interactively configure various options

MORE
> paginates screen output
> e.g. type filename | more

PATH path;path;...
> display or set command search path(s) to be used after
> cwd

PATH;
> resets default to cwd only

PROMPT string
> reset or set prompt.
> Characters (each prefixed by $) mean:
> $=$, t=time, d=date, p=cwd, v=version, n=drive,
> g=>, l=<, b=!, _=CRLF, s=leading space, e=ESC (for
> ANSI driver)

RENAME (REN) *pathname pathname*
> rename file(s) within a drive - wildcards are matched
> one-to-one

RMDIR (RD) path
> remove empty directory

SET variable=text
> display all, set or clear MS-DOS variable - accessed as
> %variable%

SHARE
> enable networked multi-access file locking
> /f:nbytes - nbytes per file, need about 20 bytes per file,
> default 2048
> /l:nlocks - nlocks per file, default 20

SORT pathname pathname
> sort lines of file alphabetically, ignoring case, to file or
> stdout; reads stdin by default
> /r   - reverse order
> /+n   - on n'th character in each line, default is first

SUBST drive: path (A: drive only)
> display substitutions, or substitute path by virtual drive

SYS *drive*: (A: drive only)
> copy hidden MS-DOS `.sys` files from default drive

TIME hours:minutes
> display and/or set time using 24-hour format

TYPE *pathname*
> output contents of a file, with tab spacing of 8

VER
> display MS-DOS version

VERIFY on!off
      display, or set!clear disk write verification

VOL drive:
      display disk volume label

XCOPY *pathname* pathname
      copy directory tree
      /a!m   - if archive bit set ! also clears in source
      /d:date- modified on or after date only
      /s!e   - copy subdirectories if not empty ! even if empty
      /p   - prompt
      /v   - verify
      /w   - wait for keypress

If renamed to MCOPY it determines automatically whether target is file or directory.

On-Line Command Help   Full details of all DOS commands can be seen by following the command with the switch /? For example,

      DIR /?

gives a listing of all DIR options.

Command Editing   DOS commands are stored in a template and previous commands can be recalled, character by character enabling editing as required.

The template is accessed by the following keys:-

F1   -   get next character from template
F2 C -   get characters up to but excluding character C
F3   -   get remaining characters from template
del   -   skip one character in template
F4 C -   skip characters up to but excluding character C
ESC   -   clear command line
INS   -   toggle overwriting of template
F5   -   copy command to template for re-editing
F6   -   put ^Z in new template

The arrow keys may also be used to recall the previous command.

Batch File Commands   All DOS commands may be used in batch files. Additionally, the following commands are useful for more advanced batch processes.

Arguments for batch files are accessed as '%1' to '%9'.

ECHO on!off!message
      display echo status, turn echoing on!off (default on)
      or display message

FOR %%C IN (SET of items) DO command
      C is any character other than 0-9, SET is e.g. list of files

GOTO LABEL
> LABEL is any line of text, usually preceded by colon (:)
> in first column, which makes MS-DOS ignore it other
> than as a label. Terminates if label not found

IF ERRORLEVEL *number command*
> command executed if previous command returned exit
> code >= number

IF *string1 == string2* **command**
> command executed if strings match
> may be negated by NOT before condition

IF EXIST *filename command*
> command executed if file exists
> may be negated by NOT before condition

PAUSE comment
> comment displayed only if echo on

REM comment
> remark - ignored by MS-DOS

SHIFT
> shift arguments - allows access to more than 9

Special Characters   Several special characters may be used when referring to
directories and files:

\	=	root directory or a directory separator
.	=	current directory
..	=	parent directory

Wildcard characters may be used in filenames or extensions:

?	=	any character
*	=	any tail or extension
X:	-	switches to current working directory (cwd) on drive X.

File Comparison Utility   The FC command enables comparison of two files:

FC *pathname1 pathname2*
> compare two files, or two wildcarded sets of files
> | | |
> |---|---|
> | /a | - abbreviate output of ASCII comparison |
> | /b | - force binary comparison (byte-by-byte) |
> | /c | - ignore case |
> | /L | - force ASCII comparison (line-by-line) |
> | /Lb# | - use line buffer of # lines |
> | /n | - display line numbers in ASCII mode |
> | /t | - do not expand tabs - default expands to spacing of 8 |
> | /w | - compress white space (tabs and spaces) to single space (leading or trailing white space always ignored) |
> | /# | - # lines must match to re-synchronize else regarded different (default is 2) |

I/O Control
DOS input and output may be controlled by the following
control key sequences. (^ = the CTRL key).

^C	-	abort current command
^H	-	destructive backspace
^J	-	linefeed - physical newline to input long lines
^N	-	toggle copying of terminal output to printer
^P	-	toggle redirection of terminal output to printer
^S	-	suspend/restart terminal output
^X	-	cancel current line, and output \-CR-LF
^Z	-	end of file

I/O Redirection   Input and output from commands or programs can be
redirected by using the following symbols:

>	send output to...
>>	append output to...
<	take input from...
|	pipe output to next input

For example:
pipe output from command a to input of command b:
    command a | command b

send a directory listing to file filename:
    DIR > filename

Using The   DOS includes a full-screen editor invoked by the EDIT
DOS Editor   command (with or without a filename). To use this editor type:

    EDIT (*filename*)

The editor provides pull-down menus, operated by the
keyboard or mouse, and a help facility. Note that any changes
made to a file overwrites the original, no backup is created.