

FILE UTILITIES

1-

fabio@LAPTOP-M3JQR46L:~\$ pwd

/home/fabio

2-

a)

```
fabio@LAPTOP-M3JQR46L: ~  ×  +  v
LS(1)                                User Commands                                LS(1)
NAME
  ls - list directory contents
SYNOPSIS
  ls [OPTION]... [FILE]...
DESCRIPTION
  List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

  Mandatory arguments to long options are mandatory for short options too.

  -a, --all
      do not ignore entries starting with .
  -A, --almost-all
      do not list implied . and ..
  --author
      with -l, print the author of each file
  -b, --escape
      print C-style escapes for nongraphic characters
  --block-size=SIZE
      with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below
  -B, --ignore-backups
      do not list implied entries ending with ~
  -c
      with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first
  -C
      list entries by columns
  --color[=WHEN]
      colorize the output; WHEN can be 'always' (default if omit-
```

Manual page ls(1) line 1 (press h for help or q to quit)

b)

```
fabio@LAPTOP-M3JQR46L: ~  x  +  v
CP(1) User Commands

NAME
  cp - copy files and directories

SYNOPSIS
  cp [OPTION]... [-T] SOURCE DEST
  cp [OPTION]... SOURCE... DIRECTORY
  cp [OPTION]... -t DIRECTORY SOURCE...

DESCRIPTION
  Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.

  Mandatory arguments to long options are mandatory for short options too.

  -a, --archive
      same as -dR --preserve=all

  --attributes-only
      don't copy the file data, just the attributes

  --backup[=CONTROL]
      make a backup of each existing destination file

  -b
      like --backup but does not accept an argument

  --copy-contents
      copy contents of special files when recursive

  -d
      same as --no-dereference --preserve=links

  -f, --force
      if an existing destination file cannot be opened, remove it and try again

  -i, --interactive
      prompt before overwrite (overrides a previous -n option)

  -H
      follow command-line symbolic links in SOURCE

  -l, --link
      hard link files instead of copying

  -L, --dereference
      Manual page cp(1) line 1 (press h for help or q to quit)
```

c)

```
fabio@LAPTOP-M3JQR46L: ~  x  +  v
RM(1) User Commands

NAME
  rm - remove files or directories

SYNOPSIS
  rm [OPTION]... [FILE]...

DESCRIPTION
  This manual page documents the GNU version of rm.  rm removes each specified file.  By default, it does not remove directories.

  If the -I or --interactive=once option is given, and there are more than three files or the -r, -R, or --recursive option is given, rm prompts the user for whether to proceed with the entire operation.  If the response is not affirmative, the entire operation is aborted.

  Otherwise, if a file is unwritable, standard input is a terminal, and the -f or --force option is not given, rm prompts the user for whether to remove the file.  If the response is not affirmative, the file is not removed.

OPTIONS
  Remove (unlink) the FILE(s).

  -f, --force
      ignore nonexistent files and arguments, never prompt

  -i
      prompt before every removal

  -I
      prompt once before removing more than three files, or when removing recursively; less intrusive than --interactive=once; less useful against most mistakes

  --interactive[=WHEN]
      prompt according to WHEN: never, once (-I), or always (-i); without WHEN, prompt always

  --one-file-system
      when removing a hierarchy recursively, skip any directory that is on a file system different from the one containing the argument

  --no-preserve-root
      do not treat '/' specially

  --preserve-root[=all]
      do not remove '/' (default); with 'all', reject any command line argument on a separate device

  -r, -R, --recursive
      remove directories and their contents recursively

  Manual page rm(1) line 1 (press h for help or q to quit)
```

d)

```
fabio@LAPTOP-M3JQR46L: ~  
NAME  
    man - an interface to the system reference manuals  
  
SYNOPSIS  
    man [man options] [[section] page ...] ...  
    man -k [apropos options] regexp ...  
    man -K [man options] [section] term ...  
    man -f [whatis options] page ...  
    man -l [man options] file ...  
    man -w|-W [man options] page ...  
  
DESCRIPTION  
    man is the system's manual pager. Each page argument given to man is normally the name of a  
    ciated with each of these arguments is then found and displayed. A section, if provided, will  
    manual. The default action is to search in all of the available sections following a page  
    first page found, even if page exists in several sections.  
  
    The table below shows the section numbers of the manual followed by the types of pages they contain:  
  
    1 Executable programs or shell commands  
    2 System calls (functions provided by the kernel)  
    3 Library calls (functions within program libraries)  
    4 Special files (usually found in /dev)  
    5 File formats and conventions, e.g. /etc/passwd  
    6 Games  
    7 Miscellaneous (including macro packages and conventions), e.g. man(7), groff(7), man-page(7)  
    8 System administration commands (usually only for root)  
    9 Kernel routines [Non standard]  
  
    A manual page consists of several sections.  
  
    Conventional section names include NAME, SYNOPSIS, CONFIGURATION, DESCRIPTION, OPTIONS, EXIT  
    VERSIONS, CONFORMING TO, NOTES, BUGS, EXAMPLE, AUTHORS, and SEE ALSO.  
  
    The following conventions apply to the SYNOPSIS section and can be used as a guide in other sections:  
  
    bold text      type exactly as shown.  
    italic text    replace with appropriate argument.  
    [-abc]         any or all arguments within [ ] are optional.  
    -a|-b          options delimited by | cannot be used together.  
    argument ...   argument is repeatable.  
    [expression] ... entire expression within [ ] is repeatable.  
Manual page man(1) line 2 (press h for help or q to quit)
```

3-

```
/home/fabio  
fabio@LAPTOP-M3JQR46L:~$ ls  
FileUtilities
```

4- List all files (including hidden)

ls -la

```
fabio@LAPTOP-M3JQR46L:~$ ls -la  
total 32  
drwxr-x--- 4 fabio fabio 4096 Nov 28 13:44 .  
drwxr-xr-x 3 root  root  4096 Nov 28 11:08 ..  
-rw-r--r-- 1 fabio fabio  220 Nov 28 11:08 .bash_logout  
-rw-r--r-- 1 fabio fabio 3771 Nov 28 11:08 .bashrc  
drwx----- 2 fabio fabio 4096 Nov 28 11:08 .cache  
-rw----- 1 fabio fabio   20 Nov 28 13:43 .lessht  
-rw-r--r-- 1 fabio fabio    0 Nov 28 11:08 .motd_shown  
-rw-r--r-- 1 fabio fabio  807 Nov 28 11:08 .profile  
drwxr-xr-x 2 fabio fabio 4096 Nov 28 13:44 FileUtilities
```

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```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ nano document.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
document.txt
```

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```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls -l
total 8
-rw-r--r-- 1 fabio fabio 59 Nov 28 14:03 document.txt
-rw-r--r-- 1 fabio fabio 28 Nov 28 14:02 document1.txt
```

7-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ cp document.txt
cp: missing destination file operand after 'document.txt'
Try 'cp --help' for more information.
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ cp document.txt document1.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
document.txt  document1.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ |
```

8-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls -l
total 8
-rw-r--r-- 1 fabio fabio 59 Nov 28 14:03 document.txt
-rw-r--r-- 1 fabio fabio 28 Nov 28 14:02 document1.txt
```

9-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ mv document.txt my_text.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
document1.txt  my_text.txt
```

10- Folders are displayed in blue

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
docs  document1.txt  my_text.txt
```

11-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ nano table.csv
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
docs  document1.txt  my_text.txt  table.csv
```

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```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls *.txt
document1.txt  my_text.txt
```

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```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls *.txt
document1.txt  my_text.txt
```

14-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls *txt*
document1.txt  my_text.txt
```

15-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ mv *.txt docs
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
docs  table.csv
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ cd docs/
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ ls
document1.txt  my_text.txt
```

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls docs
document1.txt  my_text.txt
```

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```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
docs  ficheiro1.txt  ficheiro2.txt  table.csv
```

17-

a) List all files ending with .txt

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls *.txt
ficheiro1.txt  ficheiro2.txt
```

b)

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls ?.txt
ls: cannot access '?.txt': No such file or directory
```

Lists all files with only one character (any) before .txt

- c) lists all files and directories whose names start with any lowercase letter (a-c) and have any number of characters following it.

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls [a-c]*  
ls: cannot access '[a-c]*': No such file or directory
```

- d) lists all files and directories whose names start with any lowercase letter (a-z) and have any number of characters following it.

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls [a-z]*  
ficheiro1.txt  ficheiro2.txt  table.csv  
  
docs:  
document1.txt  my_text.txt
```

- e) lists all files and directories whose names start with aeiouAEIOU and have any number of characters following it.

```
ls: cannot access '[aeiouAEIOU]*': No such file or directory  
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls [aeiouAEIOU]*  
ls: cannot access '[aeiouAEIOU]*': No such file or directory
```

- f) lists all files and directories with any 3 starting characters and the fourth character being "t"

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls ???t*  
ls: cannot access '???t*': No such file or directory
```

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```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ chmod -rwx *.txt  
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls l  
ls: cannot access 'l': No such file or directory  
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls -l  
total 16  
drwxr-xr-x 2 fabio fabio 4096 Nov 28 14:24 docs  
----- 1 fabio fabio   37 Nov 28 14:28 ficheiro1.txt  
----- 1 fabio fabio   21 Nov 28 14:28 ficheiro2.txt  
-rw-r--r-- 1 fabio fabio   21 Nov 28 14:10 table.csv
```

19- cat displays the content of a file in the console. But my user had no permission to read that file

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ chmod -rwx *.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ ls -l
total 8
----- 1 fabio fabio 28 Nov 28 14:02 document1.txt
----- 1 fabio fabio 59 Nov 28 14:03 my_text.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ cat my_text.txt
cat: my_text.txt: Permission denied
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ chmod +r *.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ cat my_text.txt
teste
teste
teste
teste123
qweqwe
wqe
wqe
wqe
wq
e
qew
qwe
```

20- cat displays the content of a file in the console.

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ chmod -rwx *.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ ls -l
total 8
----- 1 fabio fabio 28 Nov 28 14:02 document1.txt
----- 1 fabio fabio 59 Nov 28 14:03 my_text.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ cat my_text.txt
cat: my_text.txt: Permission denied
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ chmod +r *.txt
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ cat my_text.txt
teste
teste
teste
teste123
qweqwe
wqe
wqe
wqe
wq
e
qew
qwe
```

21 -

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ cd
fabio@LAPTOP-M3JQR46L:~$ pwd
/home/fabio
```

22-

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities/docs$ cd
fabio@LAPTOP-M3JQR46L:~$ pwd
/home/fabio
fabio@LAPTOP-M3JQR46L:~$ ls ../docs
ls: cannot access '../docs': No such file or directory
fabio@LAPTOP-M3JQR46L:~$ ls ./docs
ls: cannot access './docs': No such file or directory
fabio@LAPTOP-M3JQR46L:~$ ls ./FileUtilities/docs
document1.txt  my_text.txt
fabio@LAPTOP-M3JQR46L:~$ chmod -r ./FileUtilities/docs/
fabio@LAPTOP-M3JQR46L:~$ ls ./FileUtilities/docs
ls: cannot open directory './FileUtilities/docs': Permission denied
```

23 – Owner has no permission to go to /docs since owner should not be able to execute /docs

```
fabio@LAPTOP-M3JQR46L:~$ chmod -x ./FileUtilities/docs/
fabio@LAPTOP-M3JQR46L:~$ cd ./
.cache/      .local/      FileUtilities/
fabio@LAPTOP-M3JQR46L:~$ cd ./FileUtilities/docs/
-bash: cd: ./FileUtilities/docs/: Permission denied
```

24 –

```
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ nano teste.txt.old
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ ls
docs  ficheiro1.txt  ficheiro2.txt  table.csv  teste.txt.old
fabio@LAPTOP-M3JQR46L:~/FileUtilities$ rm -i *.old
rm: remove regular file 'teste.txt.old'? y
```