

# Bash Cheat Sheet

## Command Line

The Command Line Interface (CLI) is the predecessor of the graphical user interface (GUI). It is an important tool even today.

When using the CLI, the computer is given instructions via text commands. Every usual modern operating system has a command line interface.

A wide variety of tasks can be performed faster and more efficiently using the CLI instead of the graphical interface. Some programs can only be run from the CLI.

All CLIs understand a specific language and translate it to computer code using a software called the Command Line Interpreter. The most frequently used language is called Bash and it is used natively by most Linux distributions and Mac OS. Another important language is COMMAND.COM, which is used by Windows operating systems and is inherited from MS-DOS. Windows systems also have command line interpreters for Bash, although these have to be installed separately and are not supported natively.

## Useful commands

Each command looks like:

command [OPTIONS] [PARAMETERS]

The options modify the behavior of the command. Parameters are either mandatory or optional and they usually define inputs for the command to perform operations on.

## Navigation and file operations

Command	Details	Description
pwd		Print current working directory
cd	cd [dir] cd .. cd	Change directory to [dir] Move one folder up Move back to your home folder
ls	ls ls [dir] ls -l ls -a	List contents of the working directory List contents of [dir] Detailed list Show hidden files as well
mkdir	mkdir [name] mkdir -p [path]	Create an empty folder called [name] Create all non-existing folders on [path]
rmdir	rmdir [dir]	Remove an empty folder called [dir]
cp	cp [s] [t] cp -r [s] [t] cp -i [s] [t]	Copy [s] to [t] Copy recursively (folders and subfolders) from [s] to [t] Copy [s] to [t] without automatically overwriting [t]
mv	mv [s] [t] mv -i [s] [t]	Move [s] to [t] Move [s] to [t] without automatically overwriting [t]
rm	rm [file] rm -r [dir]	Remove [file] permanently Remove [dir] and its contents recursively permanently

## File inspection

Command	Details	Description
file	file [filename]	Provides basic information about [filename]
cat	cat [file]	Prints the content of [file] to screen
less	less [file]	Displays the content of [file] in a scrollable, paginated format
head	head [file] head -n [X] [file]	Prints the first few lines of [file] to screen Prints the first [X] lines of [file] to screen
diff	diff [a] [b]	Compares files [a] and [b] then prints the differences
grep	grep [pattern] [file] grep -i [pattern] [file] grep -n [pattern] [file]	Print rows of [file] containing [pattern] Print rows of [file] containing [pattern] not case-sensitively Print rows of [file] containing [pattern] along with row numbers

## Other useful commands

Command	Details	Description
echo	echo [text]	Prints [text] to the screen
history		Lists previous commands
>	[command] > [file]	Redirects the result of [command] to [file]
>>	[command] >> [file]	Appends the result of [command] to [file]

