

Help

```
help commandName
commandName /?
help --> show all system commands
```

All System Commands

```
help
```

Clear Screen

```
Clear Screen          cls
```

Shortcuts

Tab	Autocomplete
arrow keys	back/forward history
up/down	commands
Control + C	stops current command
ALT + F7	clears the history
F7	shows the history

Directory Make & Remove

mkdir	creates new subdirectory
subdir- actory	
mkdir	creates subdir & subdir/su- subdir/su- bsubdir
bsubdir	Hint: creates it, if they aren't existing
rmdir	removes an empty dir
rmdir /s	removes directory with directory content
rmdir /s /q	removes directory with directory content & skips y/n question

Directory copy

copy src	copy files
dst	
copy /Y src	copy files overwrites without quesiton
dest	
xcopy /s	copies dirs and subdirs
src dest	except empty ones

Directory copy (cont)

xcopy /YS src	as above without ask to overwrite
dest	
xcopy /YS src	copy to network share \\server\share
robocopy /S src	copies dirs and subdirs except empty ones
dest	
robocopy /YS	as above without ask to overwrite
src dest	

Parameters

%0	Name of Script
%1 ... %9	Parameter 1 ... Parameter 9
%*	prints all parameters as a string
(one line)	access it through a for loop
for %%x in	works with > 10
(%*) do echo	parameters
%%x	

Pass Parameters to sub script

parameters_scri- pt.bat	@echo off call parameters_subs- cript.bat %* EXIT /B %errorlevel%
parameters_s- ubscript.bat	@ECHO off echo subscript called with %* EXIT /B 0

EXIT /B specifies to exit the current batch script instead of cmd.exe. If executed from outside a batch script, it will quit cmd.exe

Arrays Way2

set	set value to a specific array element
array[0]=0	
set	
array[1]=1	
...	
echo	access to array elements
%array[0]%	
echo	
%array[1]%	

Arrays Way2 (cont)

```
missing loop over elements: indexed
```

Functions: label and goto

```
echo "Hi:"
goto :good
:bad
echo "I don't like scripting"
goto :eof
:good
echo "I like scripting"
goto :eof
```

DoubleClickExecution

```
@ECHO off
setlocal
REM check for interactive sesseion
SET interactive=0
ECHO %CMDCMDLINE% | FINDSTR /L
%COMSPEC% >NUL 2>&1
IF %ERRORLEVEL% EQ SET intera-
ctive=1
ECHO do work
REM pause if interactive (double-clicked
execution)
IF "%inactive%" == "0" PAUSE
EXIT /B 0
```

FINDSTR /L is use search string literally

Navigation

realative	parent directory	cd .., cd..
	subdirectory	cd subdir- ectory
absolute	cd C:\Windows cd \Windows	
change drive	Z:	

Wildcards

? (file?.txt)	one arbitrary character
* (*.bat)	arbitrary characters (0,1 or more)

File Show

type file	show file content
more	show file content pagewise
sort file	show file content sorted

Directory show Content

current folder	dir
absolute path	dir C:\Windows
dir Y:	different drive
dir /B	only show file names and directory names

Batch Files User Input

@ echo off	Syntax: set /P
set /P name="Input or name: "	var=prompt:
echo Hi %name%	variable call

Batch Files File Input

@echo off	
echo Bill > file	
echo Gate >> file	
set /P filecontent =<	set /P var=< file
file	
echo First Line:	
%filecontent%	
FOR /f %%f in (file)	REM print each
Do (line in file
echo %%f	
)	

Variables

setlocal	Only active in the
set	current batch file (local)
MY_ENV=abc	
endlocal	
set	creates or changes an
MY_ENV=abc	environment variable
	that is active in the cmd.
	(global)
set	shows the active envi-
	ronment variables
echo	print variable out
%USERNAME%	
defined	returns
MY_VAR	0 => Execution was
	successful
	>0 => Execution failed

IF Control Structures

IF test (command) ELSE	Syntax
(command)	

Control structures For

for {%% %}<Variable> in (<Set>) do <Co-
mmmand> [<CommandLineOptions>]
cmd.exe use ->%
batch script use ->%%

Functions

call :print_name Florian
echo print_name existst with %errorlevel%
goto :eof
:printname
echo Hit %1
exit /B 0 <- REM sets exit status of :print-
_name

File Rename & Move

rename file1	rename file1 to file2
file2	
move file1 dir	move file 1 to dir (path
	dir/file1)

File Rename & Move (cont)

move	moves and renames file1 to file2
file1	(path: dir/file2) file2 is overwritten
dir/file2	from file1
move	moves and overwrites file1 to file2
/Y file1	without asking
file2	

File Names

Case-Insensitive

Max. 260 characters incl. invisible termin-

ating null character

spaces and character set 128 - 255 allowed

Never <, >, :, ", /, \, |, ?, *

Hint: A-Z, a-z, 0-9, _, spaces, (underscore

as space)

*.bat & *.cmd

Directory Rename & Move

dir /B -->	only show file names and directory
Names	
rename	renames dir1 in dir2
dir1	
dir2	
move	if dir2 exist: dir1 into dir2 (path:
dir1	dir2/dir1), else rename dir1 to dir2
dir2	
move	file 2 is deleted. file1 get the
file1	name of file2 ans is set at the
dir/file2	position of file2 with asking
	(Yes/No/All)
move	file 2 is deleted. file1 get the
/Y file1	name of file2 ans is set at the
file2	position of file2 without asking.



File Redirects

type file.txt sort	give output of type to sort
sort < file.txt	give content (stdin) of file.txt
echo "hi" > file.txt	write "hi" (stout) to file.txt
type NUL > file.txt	create empty file ▲
rm file 2> errors.txt	redirects errors(stderr) ro errors.txt
rm file 2> NUL	discard errors
rm file 2>&1	redirect stderr to stdout
echo "you" >> file.txt	append "you" to file.txt

Comment

REM Präfix after them the text

Calculation

```
set /a i=0
echo i=%i%

set /a i=1+1 Operatoren +, -, *, /
set /a i+=1 Operatoren +, -, *, /
```

Arrays Way1

```
set array=1 2 3 4

%array% (echo) all Array elements

for %%a in (%array%) do (
echo%%a
)

set array=(and nothing else) unset variable or array
```

Control Structures: Comparison Operators

Operator	Info	Equal
EQU	==	Equal
NEQ	!=	Not equal
LSS	<	Less
LEQ	<=	Less than or equal to
GTR	>	Greater than
GEQ	>=	Greater than or equal
NOT	!	Not

Editors

Notepad
Notepad++
VisualStudioCode

Editors

Notepad
Notepad++
VisualStudioCode
Atom

Terminals

cmd.exe
Windows Terminal
ConEmu
cmdr

Batch Filex Exit / Return

```
Specify exit code: echo "abc"
exit 0

Query error level echo %ERRORLEVEL%

Exit/Return codes 0 => Execution was successful
>0 => Execution fiales with code X
```

