

Cheatsheet Shell Commands

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1 Basic Shell Commands

| Shell Command | Explanation |
|--|---|
| <code>cd filepath</code> | change d irectory aka move into a different folder |
| <code>ls -lh folder</code> | list the files and folders in your current d irectory |
| <code>pwd</code> | show p ath of w orking d irectory aka the folder that you're in right now |
| <code>touch fname</code> | make a new file |
| <code>mkdir dirname</code> | m ake a new d irectory aka a folder |
| <code>rm fname</code> | r emove aka delete a file or directory |
| <code>cp original-fname copied-fname</code> | c opy a file or directory |
| <code>mv original-fname new-fname</code> | m ove or rename a file or directory |
| <code>cat fname</code> | show all the contents of a file |
| <code>more fname</code> | show snippet of a file that allows you to scroll through the entire thing |
| <code>head fname</code> | show the first 10 lines of a file (change number of lines by adding a flag, e.g. <code>head -100</code>) |
| <code>tail fname</code> | show the last 10 lines of a file (change number of lines by adding a flag, e.g. <code>tail -100</code>) |
| <code>wc -w -l fname</code> | show how many w ords or lines in a file |
| <code>man command</code> | show the m anual aka the documentation that tells you what a particular command does |
| <code>echo</code> | print text to the command line |
| <code>egrep "search pattern" fname or dirname</code> | search for lines that include search term in file. See below for the arguments of <code>egrep</code> . |
| <code>wget url</code> | g et a file from the w eb |

This cheatsheet is based on [this resource](#). Please also refer to this resource for a more in-dept explanation in prose. You should follow the guide for macOS and Unix even as a Windows user as we have installed a Unix environment.

1.1 egrep

The most common arguments of **egrep**:

- **-i** search case insensitive
- **-r** search recursively in folder
- **-o** show exact matches only instead of entire lines with matches
- **-h** suppress the file path where the match occurred

1.2 Operators

- **|**: A pipe takes the output of one command and passes it as the input to another.
`echo "pass this text to next command" | cat`
- **>**: This operator redirects the output to a file (overwrites if it already exists). Example:
`echo "first line of file1" > file1`
- **>>**: This operator redirects and appends the output to an *existing* file: Example:
`echo "line following existing content of file1" >> file1`

2 NLP-related Shell Commands

coming soon!

3 Regular Expressions

3.1 Example Patterns

```
# alle Kleinbuchstaben
echo "Das ist ein Satz mit der Zahl 1000" | egrep --colour "[a-z]"

# alle Grossbuchstaben
echo "Das ist ein Satz mit der Zahl 1000" | egrep --colour "[A-Z]"

# das Wort "ist" und das nächste Wort
echo "Das ist ein Satz mit der Zahl 1000" | egrep --colour "ist [a-z]*"

# das Wort "Zahl" gefolgt von einer Ziffer
echo "Das ist ein Satz mit der Zahl 1000" | egrep --colour "Zahl [0-9]"

# das Wort "Zahl" gefolgt von beliebig vielen Ziffern
echo "Das ist ein Satz mit der Zahl 1000" | egrep --colour "Zahl [0-9]*"
```

3.2 Pattern Equivalence

```
a+ == aa*           # "a" once or more than once
a? == (a|_)         # "a" once or nothing
a{3} == aaa         # three "a"
a{2,3} == (aa|aaa)  # two or three "a"
[ab] == (a|b)       # "a" or "b"
[0-9] == (0|1|2|3|4|5|6|7|8|9) #any digit
```