Programming Introduction

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Contents

1 Terminal

1.1 Introduction

```
> uname -mns
  Darwin imac.local i386
  Report bugs to <bug-coreutils@gnu.org>.
> uname -mns
  Darwin mbkp.local i386
> ssh anker.unibe.ch
  user@bender.unibe.ch's password:
> uname
  Linux
> uname -mon
  bender x86_64 GNU/Linux
> uname --help
  Usage: uname [OPTION]...
  Print certain system information. With no OPTION, same as -s.

    -a, --all print all information, in the following order,
                          except omit -p and -i if unknown:
    -s, --kernel-name print the kernel name
    -n, --nodename print the network node hostname
    -r, --kernel-release print the kernel release
    -v, --kernel-version print the kernel version
    -m, --machine print the machine hardware name
    -p, --processor print the processor type or "unknown"
    -i, --hardware-platform print the hardware platform or "unknown"
    -o, --operating-system print the operating system
        --help display this help and exit
        --version output version information and exit
```

1.2 Commands

```
    rm cami@bender:~/test$ ls
    todelete.txt
    cami@bender:~/test$ rm todelete.txt
    cami@bender:~/test$ ls
```

touch updates the access and modification times of each FILE to the current time.

```
    cami@bender:~/test$ ls -l
    -rw-r--r-- 1 cami cami 0 2009-08-25 20:29 date.txt
    cami@bender:~/test$ touch date.txt
    cami@bender:~/test$ ls -l
    -rw-r--r-- 1 cami cami 0 2009-08-25 20:30 date.txt
```

It can be very useful to create a new empty file on the fly:

```
~/test$ ls
~/test$ touch emptyfile.txt
~/test$ ls
emptyfile.txt
```

`ls` shows directories

```
[kurs11@vasarely ~]$ ls
Desktop documentation Documents Download lessons Music Pictures Public
Templates Videos
```

`man` gets help for all the other commands

`cd` changes the current directory to the chosen dir.

```
[kurs11@vasarely ~]$ ls
Desktop documentation Documents Download lessons Music Pictures Public
Templates Videos
[kurs11@vasarely ~]$ cd lessons
[kurs11@vasarely lessons]$ ls
\00 terminal introduction.txt 02 documentation 04 terminal extension
documentation
01 vim introduction 03 terminal basic commands 05 ruby
```

`ls` lists directory content

`pwd` prints current working directory

`mkdir` makes directory(ies), if thez don't already exist

`touch` Update the access and modification times of each FILE to the current time.

`mv` moves or renames files/directories

`cp` copies files and directories

`rm` removes files or directories

`cat` concatenate files and print on the standard output

```
[kurs11@vasarely 02 documentation]$ cat 00\ cat\ this\ file\ for\ instructions
Ask the assistant for setting up the documentation for you.
Then checkout the documentation template written in Latex from:

http://bender.unibe.ch/svn/pi/students/YOUR_USER_NAME/
```

ssh OpenSSH SSH client (remote login program)

```
[kurs11@vasarely 11 ssh]$ ssh anker.unibe.ch
The authenticity of host 'anker.unibe.ch (130.92.63.43)' can't be established.
RSA key fingerprint is 23:0a:a6:55:86:0e:90:8b:61:49:fc:fc:5b:0b:b6:36.
Are you sure you want to continue connecting (yes/no)? y
Please type 'yes' or 'no': yes
Warning: Permanently added 'anker.unibe.ch,130.92.63.43' (RSA) to the list of known host
kurs11@anker.unibe.ch's password:
Permission denied, please try again.
kurs11@anker.unibe.ch's password:
[kurs11@anker ~]$ ls
Desktop documentation Documents Download lessons Music Pictures Public
Templates Videos
```

svn Subversion command-line client

grep opens VIMTutorial

less views the files "text- content"

wc prints newline, word, and byte counts for each file

du estimates file space usage

find search for files in a directory hierarchy

wget The non-interactive network downloader

vimtutor opens VIMTutorial

vim filename opens a new VIMfile

2 VIM

2.1 Commands

`:wq` : save and quit

`:q!` : quits without saving

`y,p` : "copy and past"

`:wq` : save and quit

3 Documentation with Latex

3.1 Introduction

In this section we explain some LaTeX details and different formatting commands.

Whenever you need to lookup a certain symbol for LaTeX we suggest you to use the online recognition tool `detexify` at `http://detexify.kirelabs.org/`.

3.2 Common Commands

3.2.1 Sectioning

Depening on the documentclass given in the very beginning of this file there exist several sectioning levels:

1. `\section{NAME}`

2. `\subsection{NAME}`

3. `\subsubsection{NAME}`

4. `\paragraph{NAME}`

To enforce LaTeXto use a newline add a double slash `\\` at the end of a line.

3.2.2 Schriftgrösse / -style

\rm	A normaler text
\sl	*An italic text*
\bf	**A bold text**
\tiny	A tiny ext
\scriptsize	A very, very small text
\footnotesize	A very small text
\small	A small text
\large	A big text
\Large	A bigger text
\LARGE	An even bigger text
\huge	A huge text
\Huge	A enormous huge text
\emph	*An emphasized text*
\underline	<u>An underlined text</u> and here using the ulem-package
\texttt	`function goto(int a)` ...
\uuline	A double unterstrichener text using the ulem-package
\uwave	A wavy unterstrichener text using the ulem-package
\sout	~~A crossed trough text using the ulem-package~~
\xout	A deleted text using the ulem-package

3.2.3 Notes

To create a footnote use the `\footnote{YOUR NOTE}` command[1].
If you want to put a remark at side of a page use `\marginpar`.

This is a note at the border of the page.

3.2.4 Lists

There exist several list types in LaTeX. You start a list by adding a `\being{LISTTYPE}` and end it with an `\end{LISTTYPE}`. A list item is added with a `\item` between the `begin` and `end`. `LISTTYPE` can be one of the following list:

- `enumerate`

- `itemize`

- `description` with `\item[topic]`

Note that you can nest lists if you want to.

1. e4

   a) e4 e5

---

[1] ...as you can see here.

b) Lc4 d6

2. Lc4 d6

4 Ruby Programming