

Assignment 0 (Linux)

Instructions:

- All exercises are supposed to be done in a shell. That means: Please **not use the graphical file explorer** (e. g. *Nautilus*, *Thunar*, *Konqueror*).
 - If you work on a Mac then you can do the exercises in the Mac shell.
 - Please submit all commands you typed into the shell to make the exercises or to retrieve the requested information (except ex. 1 a)) on the course homepage on Ilias until Thursday, 22 October, 4 p.m. (16:00 Uhr)
 - Ask us, write us an eMail or just drop in if you get stuck somewhere!
 - Max Kisselew: Office 2.024, Pfaffenwaldring 5b. eMail: max.kisselew@ims.uni-stuttgart.de
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Part I – Linux

Exercise 1: The Shell (section 1)

- a) Open a shell.
- b) Find out which shell type you use.

Exercise 2: Navigation, Command line (sections 2 – 3)

- a) Figure out and write down in which directory you are.
- b) Go to the folder `/mount/studenten/programmierkurs`
Remark for Mac users: You can use the `ssh` command to log in to the IMS server `phoenix.ims.uni-stuttgart.de` from the shell and to access the mentioned folder.
- c) Now navigate through the subfolder `start` to search for the following files. Give their *full path* (e. g.: `/mount/studenten/programmierkurs/start/file.txt`) after you found them.
 - `lorem_ipsum.txt`
 - `linguistics.txt`
 - `morphology.txt`

Exercise 3: Copying, moving and deleting files (section 4)

- a) Now go back to your home directory.
- b) Create a new folder `mydir` in your home directory.
- c) Copy the file `linguistics.txt` you found in the previous exercise to your folder `mydir`.
Remark for Mac users: You can use the `scp` command to copy the files from the IMS server `phoenix.ims.uni-stuttgart.de`.
- d) Copy the file `lorem_ipsum.txt` you found in the previous exercise to your folder `mydir`.
- e) Rename the file `lorem_ipsum.txt` in `mydir` to `latin_text.txt`.

Exercise 4: Permissions (section 5)

- a) Which permissions does the file `linguistics.txt` in `mydir` have? Please do not just write the output of `ls -l` but explain what the given permissions allow the *user*, the *group* and the *others* to do with the file.
- b) Make the file `linguistics.txt` writeable for all (i. e.: the *owner*, the *group* and the *others*).

Exercise 5: head/tail, tr, sort, uniq, wc, tee (sections 7 + 10)

- a) Write the last 100 lines of `linguistics.txt` to a new file `ling-100.txt`.
- b) Write a command pipeline that creates a word list of the words in `ling-100.txt`. The word list should be sorted alphabetically.
- c) How must the pipeline from the previous exercise be extended to get a word list which is sorted after frequency of the words? (The most frequent words should appear first.)
- d) How many lines, words and characters do the files `linguistics.txt` and `ling-100.txt` contain?

Exercise 6: Meta-Exercise (optional)

- a) **The big picture:** Formulate in your own words what we have learnt today. Just a few sentences are sufficient.
- b) Which is the most important thing you learnt today personally **for you**?
- c) Ask **one or two questions** regarding the content of today's class.

Part II – Python

Exercise 7: Installing Python

Download and install the Python interpreter (version 2.7.10) on your personal computer or notebook if it is not yet installed. You find installation manuals for different operating systems on the following webpage:

<https://docs.python.org/2.7/using/index.html>
