

Exercise Sheet #1

Note: This sheet is meant as a fast introduction to Linux. You do **not** have to hand in this sheet, however we highly recommend to work on the exercises, as they provide the fundamentals for all upcoming exercises.

Introduction to Linux For all the commands below, be sure to check its man page, using `man <command>`. If there is something you want to do, and you don't find a command, you should search the internet, chances are there is a UNIX command that does what you want, or someone already had the same problem.

Problem 1 (*File system*)

1. Use the commands `cd`, `pwd` and `ls` to explore the filesystem. Try:

- `cd <dir>` (change to dir)
- `pwd` (print working directory)
- `ls` (list files in current directory)
- `ls -all` (list all properties)
- `cd .` (change to here)
- `cd ..` (change one level down)
- `cd ~` (change to home directory)
- `cd` (change to home directory)
- `cd /` (change to the root directory - the equivalent to "C:" in windows)
- change to some other user directory, for instance to `username` with `cd ~username`

[man to show the power of command](#)

[adduser to add a new ser](#)

[su to switch user](#)

[ls -li how root, when it was created and name](#)

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2. Go to the `/etc` directory and see what is there, check the rest of the filesystem tree using `cd`, `ls`, `pwd` and `cat`. Look in `/bin`, `/usr/bin`, `/sbin`, `/tmp` and `/boot`.
 3. Go to your home directory and generate a directory called `uni` and `notuni`, with the `mkdir` command. Change to `notuni` and generate a file with `touch newfile`.
 4. Copy the file `newfile` to `copyofnewfile` in the directory `notuni` using the command `cp`. Then rename the file by moving the file with the command `mv`.
 5. Now go back one level try to delete both directories using `rm` and its options (check `man rm`).
 6. What is the difference between listing the contents with `ls -ltr` and `ls -l`, or `ls` (check some of the options, often denoted *flags* listed in `man ls`).

Problem 2 (*Reading from Files*)

Navigate to a directory that contains a text file.

1. Show the content of the text file one page at a time using the `less <filename>` command.
2. Show the first and last ten lines of the file using `head <filename>` and `tail <filename>`, respectively.
3. Use `grep <word> <filename>` to search your file for lines containing a word of your choice.

Problem 3 (*Permissions*)

1. Create a file and a directory with permissions `r--r--r--`. Can you change to the directory you created now? (hint: `man chmod`)
2. Modify the permissions on your home directory to make it completely private. Check with some other user that he can't access your directory. Then put the permissions back to how they were. Choose a directory in your home directory and make all the files on it read only.