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 comands 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 -l how root, when it was created and name

1. 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.

1. 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.
2. 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.
3. Now go back one level try to delete both directories using rm and its options (check man rm).
4. 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.

1. Show the first and last ten lines of the file using head <filename> and

tail <filename>, respectively.

1. 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.