2012

Exercise for the topic Command Line (2 units, 20 points)

1.

Please create the directory **exercises** in your CBWE lecture account. This directory may be accessible only by you.
Create the following subdirectories in the **exercises** directory:
linux, comline, networking, ssh, mailing, imageproc, presentation
1 point

2. Please investigate how many and which editors are available in the Debian Squeeze distribution:
 use the squeeze--all-packages.txt file
(listed bei the Course material in the topic Linux)
and select the lines in which the word 'editor' is listed
(e.g. use the _grep_ command). Save this as a file: **linux-editors-all.txt** in the exercises/comline/ directory in your CBWE lecture home directory.

Create an OpenOffice Calc table (.ods), where the following types of editors are mandatory listed, which you extract form the linux-editors-all.txt:
text, audio, sound, video, mpg, mp3, html, xml, emacs, vi; with the number of editors for these types (e.g. use the command _wc_). Save this file as **linux-editors.ods** in the used directory.
2 points

Delete the already grouped editors from the linux-editors-all.txt file and save this as linux-editors-remained.txt file (use _grep_ with appropriate option for this).
Investigate the remained editors and group them similarly as above and create at least 6 further groups. Add the names you choosed and the number of items in the groups into the table **linux-editors.ods** . Save the extended file in the exercises/comline directory.
2 points

Create an OpenOffice writer file and add the full output you got in the terminal window during your work and export this .odt as a file: **linux-editors-log.pdf**.
Save this file in the directory: exercises/comline/ in your CBWE lecture home directory.
1 point

remark: you should use I/O redirecting, pipelining.

Total: **5** points

2. Manipulate output lines

- use the command *dpkg* to list all Debian packages, which have the word *editor* in their name.

- the package name is the second listed field, which is separated by two white spaces from the 1st field. Use the *cut* command to select the 2nd field only from the output.

- To get the correct input for the *cut* command you have change dpkg output. Use the *sed* command please, to manipulate the dpkg output.

- please create a pdf file: **dpkg-sed.pdf** from the terminal window contents for this exercise and save it in the directory: exercises/comline/ in your CBWE lecture home directory.

   2 points

3. Using the *find* command in your /home/cbwe-login/ directory:

   a- search for the pdf files in your CBWE directory and make a *long list* about the found files (use: ls -l)

   b- search for all directories and make a *long list* about the directories only (not about the contents of the directories)

   c- search for files which occupy more than 130 Kilobyte and make a *long list*

   d- search for files which are readable for everybody and make a l*ong list*

   e- search for files which are writable for the group and make a *long list*

   f- create a pdf file about the output in the terminal window and save it as **find.pdf** in the exercises/comline/ directory.

      2 points

4. Copy directories using the *tar* command:

   create a subdirectory in your /home/cbwe-home directory named as **backup-exercise**

   a- create a tar file about the exercises directory tree as exercises.tar and compress it witch the gzip program.
     - list the first 10 lines of the exercises.tar.gz archive, to see, which files are listed.

   b- create a backup of the exercises directory using the tar utility in one complex

command. The backup have to be located under backup-exercises/ directory.

    c- create a screenshot about the terminal output as **tar-list.jpg** and save it in the exercises/comline/ directory.

    2 points

5. Complex Kill command

    a- start acroread in the background in a terminal window to display a pdf file in your lecture home directory.
    b- list all processes by *ps*, select acroread by *grep*, and extract the processid from the output. Print this processid on the terminal window.
    c- use this processid to kill the acroread process (complete the complex command in the step b. to kill the process)
    d- create a screenshot about the terminal window and save it as **ps-kill.jpg** in the exercises/comline/ directory.

    2 points

6. Shell script (*bash*)

  A. Copy the jpeg files you created till now to the exercises/imageproc directory, your photo, too.

  B. Create a shell script:
    a. Print a header line for the output:
      „File name   Size (pixel)   Size(KByte)"

    b. Invoke the <u>identify</u> command and print the file name (which ends by the *.jpg*), the pixel size of the picture and the size in Kbyte (without decimal places) for each picture.

    c. Use a loop to handle all pictures in the directory.

    d. comment the used commands in the script.

    e. Put the script as **pics-id.sh** in the comline directory.
       In a terminal windows list the script and invoke it. Make a screenshot about the output and save it in exercises/comline directory as **pics-id.jpg** .

    3 point

7. Who is logged on

   Creata a _bash_ shell script, wich creates a sort list about the users logged in.
   The output have to be the following:

   in 4 colums the login names of the users are listed. The length of the used terminal
   window is 70 character. The username may be listed only once in the case of more
   sessions.
   (use the _who, cut, sort, pr_ commands, or commands, which give the same output.)

   save the command as **logged-in.sh** in exercises/comline directory.
   Invoke the command on the compute servers (speedy, gonzales).
   Cat the shell, invoke it and create a screenshot about the output as **logged-in.jpg**

   2 points

3. Start _kdirstat_ in your CBWE course home directory in full screen mode, open the
exercises subdirectory with all subdirectories (as possible) and make a screenshot about
the directory tree. Save the screenshot as **kdirstat.jpg** in exercises/comline/ directory.

   1 point

Deadline: January 7th, 2013.