Exam Linux-Praxis - 1
(From http://www.linux-praxis.de)

(1) Which of the following commands results in mailing the content of the current directory
to Bob?Choose the best answer.

```
A. mail Bob < ls
B. ls > mail Bob
C. ls || mail Bob
D. ls | mail Bob
E. mail Bob ls
```

(2) How could you describe the following command line?
```
      foo & bar & foobar
```
   Choose the best answer.

```
A.The commands foo, bar and foobar are started in the background.

B.The command foo is processed. If it results without error,
  then bar and foobar are processed.

C.The command foo is processed.
  If it results without error, then bar will be processed.
  If bar results without error, then foobar will be processed.

D.The commands foo, bar and foobar are processed one after
  another.

E.The commands foo and bar are started in the background,
  foobar is started in the foreground
```

(3) Which would be the command to delete the enviroment variable FOO from the current
environment in the bash shell? Choose the best answer.

```
A. delete $FOO
B. destroy FOO
C. unset FOO
D. FOO=
E. rm -rf $FOO
```

(4) What would the following command result in?
```
      cp $(find . -size -12k) /tmp
```
   Choose the best answer.

```
A. The file with the name stored in the variable
   "find . -size -12k" will be copied to /tmp

B. All files in the current directory which are smaller than
   12 KByte will be copied to /tmp

C. All files in the current directory and in all included
   subdirectories which are smaller than 12 KByte will be
   copied to /tmp.

D. All files in the current directory and in all included
   subdirectories which are smaller than 12 KByte will be
   copied to /tmp. The directory structure will be copied, too.

E. This isn't a valid command
```

(5) How could you get the following information:
Which GID has the default group of user foo? Choose the best answer.

```
A.  defgrp foo
B.  defgrp -n foo
C.  grep foo /etc/passwd | cut -d: -f4
D.  getuserinfo -gid foo
E.  grep foo /etc/group | cut -d: -f3
```

(6) What command is used to count the number of lines, words and characters inside a textfile - just the command, no options? Type the answer.

_____

(7) What would the following command result in?

```
    cp /home/foo/bar /home/bar/foo /foo
```
Choose the best answer.

```
A. The files /home/foo/bar, /home/bar/foo, and /foo are copied
   into the current directory

B. The file /home/foo/bar is copied into the directories /
   home/bar/ foo and /foo

C. The files /home/foo/bar and /home/bar/foo are copied together
   in the file /foo

D. The files /home/foo/bar and /home/bar/foo are copied into the
   directory /foo

E. This isn't a valid commandline
```

(8) You've started three jobs in the background. Now you would like to bring a particular one of them into the foreground again. How could you do it? Choose the best answer.

```
A. Get the list of jobs using the jobs command and then use:
   fg jobID

B. Switch through all background-jobs using the Ctrl-Tab key

C. Get the list of jobs using the jobs command and then use:
   kill -STFG PID_of_job

D. Use the command: fg jobname

E. Get the list of jobs using the jobs command and then use:
   jobname |
```

(9) What command sends signals to processes (just the command - no options)?
Type the answer.

_____

(10) A high nice value of a process means? Choose the best answer.

```
A. the process uses less irqs
B. the priority of the process is higher than normal
C. the priority of the process is lower than normal
D. the process uses no enviroment
E. the process allows interprocess communication
```

(11) What means the following construct inside a regular expression?
```
    [^A-Z][!A-Z]     Choose the best answer.
```

```
A. The starting of a line, followed by an uppercase letter,
   followed by a non uppercase letter.

B. Either the starting of a line or an uppercase letter followed
   by a non uppercase letter.

C. A non uppercase letter followed by either an ! or an uppercase
   letter

D. A non uppercase letter at the beginning of a word followed by a
   non uppercase letter.

E. An uppercase letter at the beginning of a word followed by a
   non uppercase letter.
```

(12) What statement concerning the following wildcard is correct?
```
    [A-Z]\*          Choose the best answer.
```

```
A. All files beginning with an uppercase letter followed by one *

B. All files beginning with an non numeric letter

C. All files beginning with an uppercase letter followed by the
   backslash

D. All files without numbers in their names

E. All files beginning with one of the letters A, Z or -
```

(13) What command would you use to show all partitions on all hard drives?
Choose the best answer.

```
A. df
B. mtab
C. fstab
D. fdisk -l
E. du
```

(14) While monitoring the integrity of the filesystems, you detect, that there are no more free inodes left on the `/home` partition although there are many megabytes free space. What could be the reason? Choose the best answer.

```
A. This is a typical filesystem error on ext2 partitions.
B. A user has created lots of very small files.
C. The inode table is corrupted.
D. There are lots of cross-linked files.
E. The report of many megabytes free space is wrong due to an
   overflow of the 32 Bit Free-Space-Variable.
```

(15) Consider an unmounted partition `/dev/hdc7` should be mounted on `/usr/local`.
The following entry in `/etc/fstab` exists:
```
/dev/hdc7          /usr/local          ext2          defaults       1  2
```
Which command could you use to mount the filesystem?
Choose all correct answer.

```
A.  mount -l /dev/hdc7
B.  mount /dev/hdc7
C.  mount /dev/hdc7 /usr/local
D.  mount /usr/local
E.  mount -V /usr/local
```

(16) How could you generate a report of the user quota of `/home?`
Choose the best answer.

```
A.  repquota /home
B.  quotarep /home
C.  quota --report /home
D.  edquota /home
E.  quotaed /home
```

(17) What is the meaning of the following file permission mode of the file `foobar?`
```
-rwsr-xr-x     1 foo       bar       12345    Oct 29 14:51     foobar
```
Choose the best answer.

```
A.  Everybody who executes this file does this under the EUID of
    root
B.  Everybody who executes this file does this under the EUID of
    foo
C.  Everybody who executes this file does this under the GID of bar
D.  Everybody who executes this file does this under the EUID 1
E.  Everybody who executes this file does this under the GID 1
```

(18) What command changes the default permission mode for newly created files?
(Just the command - no options). Type the answer.

_____

(19) How could you change the ownership of the file `foobar` to user `foo?`
Choose the best answer.

```
A.  chown foo:foobar
B.  chown foobar foo
C.  chown foo foobar
D.  chmod --user foo foobar
E.  chperm --user foo --file foobar
```

(20) The files `foo` and `bar` points to the same content. One of them was created as a hard
link to the other. How could you detect which of the two is the original file and which is
the link? Choose the best answer.

```
A.  The ls -l command shows a l for the link and a - for the file
B.  The ls -l command shows a -> from the link to the file
C.  The "ln --list foo bar" command shows the link and the file
D.  The ls -l command shows a different filesize for the link and
    the file. The file shows it's real size but the link shows only
    the size of it's destination filename.
E.  There is no way to differ between file and link
```

(21) Which of the following statements concerning the `locate` command is true?
Choose the best answer.

A. locate can find any file in the system which was created before
the last call of updatedb

B. locate can find only program files inside the searchpath (PATH)

C. locate is used to locate manpages inside the MANPATH

D. locate can find any file in the system which was created after
the last call of updatedb

E. locate is used to find the original file of a hard or symbolic
link

(22) What command would you use to read the kernel bootup messages?
(Just the command, no options) Type the answer.

_____

(23) What command would cleanly reboot your Linux box? Choose all correct answer.

A. shutdown -r now
B. init 0
C. telinit 1
D. init 6
E. reboot

(24) What is the meaning of the `MANPATH` variable? Choose the best answer.

A. It describes the path to the man, apropos and whatis command.
B. It stores the last visited manpages.
C. It stores the directories for the different manual sections.
D. It stores a list of all directories which contain manpages.
E. It stores the routing path for the Metropolean Area Network.

(25) User `Paul` has forgotten his password. He asks you, the administrator, to help him.
What could you do to help him? Choose the best answer.

A. Decrypt his encrypted password in /etc/shadow and tell him his
forgotten password.

B. Create a new password for him using the command "passwd paul"
and tell him his new password.

C. Remove the user paul and create a new one with a new password.

D. Login as user paul using the command "su paul" and create a new
password with passwd

E. Remove the entry of his password in /etc/shadow and let him
login without password.

(26) The group `foo` should get its own administrator, so that you, as the root user, are not forced to add the new group members. The group administrator is the user `bar`, who already is member of `foo`. He should be able to add and remove group members. What command would you use for that purpose? Choose the best answer.

```
A. chgrpadmin bar foo
B. chgrpadmin foo bar
C. gpasswd -A bar foo
D. gadmin foo bar
E. gpasswd -a foo bar
```

(27) Which directory contains a set of template configuration files, to be copied in an newly created user directory? Enter the whole path. Type the answer.

_____

(28) How could you describe the following command?
```
tail -f /var/log/messages
```
Choose the best answer.

```
A. It cuts the last 10 lines of the file /var/log/messages to
   STDOUT

B. It changes the access time for the file /var/log/messages to
   now

C. It changes the modification time for the file /var/log/messages
   to now

D. It writes the contents of the file /var/log/messages in
   reversed order to STDOUT

E. It displays every new line of the file /var/log/messages while
   this file is growing
```

(29) How can you describe the function of the following commands?
```
foo | tee bar | foobar
```
Choose the best answer.

```
A. The command foo redirects its output to the command tee. After
   that the command bar redirects its output to the command foobar

B. The command foo writes its output to the file tee; the command
   bar writes its output to the file foobar

C. The command foo redirects its output to the command tee which
   writes it into the file bar and sends the same further to the
   command foobar

D. The command foobar gets its input from the command bar which
   gets its input from the command foo

E. This isn't a valid commandline
```

(30) How could you describe the following commandline?
```
foo &| bar
```
Choose the best answer.

A. The command foo is started in the background and redirects its
   output to the command bar.
B. The command bar is only processed if the command foo returns no
   error.
C. The command bar is only processed if the command foo returns an
   error.
D. The command bar is processed after the command foo, regardless
   of errors.
E. This isn't a valid commandline.

(31) How would you assign the content of the enviroment variable PATH to the
   environment variable MYPATH in the bash shell? Choose the best answer.

A. MYPATH=PATH
B. MYPATH=$PATH
C. $MYPATH=PATH
D. $MYPATH=$PATH
E. let MYPATH=$PATH

(32) Which command would change the owner of all files and subdirectories under /
   `home/foo` to `foobar`? Choose every correct answer.

A. chmod foobar /home/foo
B. chown foobar /home/foo
C. chown -r foobar /home/foo
D. chown -R foobar /home/foo
E. chown --recursive foobar /home/foo

(33) How could you get the following information:
   Which GID has the default group of user `foo`? Choose the best answer.

A. defgrp foo
B. defgrp -n foo
C. grep foo /etc/passwd | cut -d: -f4
D. getuserinfo -gid foo
E. grep foo /etc/group | cut -d: -f3

(34) What command is used to display a textfile in reversed order
   (last line first - first line last) - just the command, no options?

_____

(35) What is the result of the following command?
```
cd ~foo
```
Choose the best answer.

A. The current directory is changed to ~foo
B. The current directory is changed to the directory foo inside
   your home directory
C. The current directory is changed to the home directory of the
   user foo
D. The current directory is changed to the nearest directory with
   a name ending with foo
E. This isn't a valid command

(36) How would you suspend a running foreground-job?
Choose the best answer.

```
A. Ctrl-Z
B. Ctrl-C
C. Ctrl-X
D. Ctrl-S
E. Ctrl-D
```

(37) How could you try to stop a hung process which refuses to accept keyboard input?
Choose every correct answer.

```
A. Ctrl-C
B. Ctrl-S
C. kill -9 PID
D. kill PID
E. ipcsend SIGKILL PID
```

(38) What command starts processes with higher or lower priority? Type the answer.

_____

(39) Which of the following tools could be used to search a textfile for a particular
searchstring without opening it with an interactive editor?
Choose every correct answer.

```
A. vi
B. sed
C. ed
D. grep
E. find
```

(40) What set of files would be affected by the following wildcard?
`foo.*bar`
Choose every correct answer.

```
A. foo.bar foo.1bar foo.2bar
B. foobar foo.2bar foo.34bar
C. foo.1bar foo.2bar foo.Fbar
D. foo.1bar foo.2bar Foo.3.bar
E. foobar foo1bar foo2bar
```

(41) `/dev/____` ist the first logical partition of the master on the second IDE-channel.
Type the answer.

_____

(42) How could you monitor the amount of free inodes on `/dev/hda3` ?
Choose the best answer.

```
A. inode --free /dev/hda3
B. ls -i /dev/hda3
C. du -i /dev/hda3
D. dm -i /dev/hda3
E. df -i /dev/hda3
```

(43) You have created a new directory named `/foo` and now you have copied the two files `bar` and `foobar` into this new directory. Now you mount a floppy onto `/foo` using the command:
`mount /dev/fd0 /foo`
What happens to the two files `foobar` and `foo` if you would use the commands:
`rm -rf /foo/*`
and then
`umount /foo`
Choose the best answer.

```
A. They are removed
B. They are removed but you can restore them
C. It isn't possible to mount a floppy in a non empty directory
D. Nothing. They are still there
E. The names appear in the directory but the inodes are deleted
```

(44) How could you generate a report of the user quota of `/home`?
Choose the best answer.

```
A. repquota /home
B. quotarep /home
C. quota --report /home
D. edquota /home
E. quotaed /home
```

(45) What command is used to change the permission mode of a file?
(Just the command - no options) Type the answer.

_____

(46) What would be the default file permission modes for new files
if you set umask to `022` ? Choose the best answer.

```
A. 755
B. 644
C. 022
D. 220
E. 550
```

(47) What command is used to change group membership of a file?
(Just the command - no options) Type the answer.

_____

(48) You create a hard link `bar` which points to the file `foo`.
If you remove the file `foo`, what happens? Choose the best answer.

```
A. The link is automaticly removed as well
B. The link exists but any access would lead to an error
C. The link exists and it is possible to have access to it's
   content
D. The link is automaticly changed into a regular file with the
   content of foo.
E. The link but not the file was removed.
```

(49) Which directories are forced to be located on the root partition?
Choose every correct answer.

```
A.  /boot
B.  /proc
C.  /usr
D.  /dev
E.  /etc
```

(50) How could you check the integrity of a non mounted filesystem `/dev/hdb7` even if it has a valid cleanflag? Choose the best answer.

```
A.  chkdsk /dev/hdb7
B.  fsck /dev/hdb7
C.  hdcheck --force /dev/hdb7
D.  fsck -f /dev/hdb7
E.  fschk -f /dev/hdb7
```

(51) You want to activate graphical login on your Linux box so everybody can use a secure X11. What would you do to start this service immediatly? Choose the best answer.

```
A.  Switch to the displaymanager runlevel
B.  Start the klogin program
C.  Start the xlogin program
D.  Start the xdm program
E.  Enter the number of the displaymanager runlevel in the entry of
    the default runlevel in /etc/inittab.
```

(52) What kind of information would you find in the manual section 8 ?
Choose the best answer.

```
A.  about games
B.  about macro packages and conventions
C.  about system administration commands (usually only for root)
D.  about file formats and conventions eg /etc/passwd
E.  library calls (functions within system libraries)
```

(53) Which shell would you use for a POP3 only account on your system?
Choose the best answer.

```
A.  /bin/bash
B.  /bin/rsh
C.  /bin/psh
D.  /bin/popsh
E.  /bin/false
```

(54) The group `foo` has a password. Who needs to know this password?
Choose every correct answer.

```
A.  Any user who is member of the group foo
B.  Any user who is member of the group foo but foo isn't his
    primary group
C.  Any user who is member of the group foo and wants to change his
    primary group to foo
D.  Any user who is not member of the group foo but wants
    permission to a file belonging to this group
E.  Any user who wants permission to a file belonging to this group
```

(55) You get a mail from user `bart`, in which he tells you, that he can't execute a self written shell-script named `foo`. This script is placed in the directory `/home/bart` and the user's current working directory is `/home/bart`, too.
The `ls -l` command shows the script and the user has execute permission.
What would probably be the reason of the problem? Choose the best answer.

```
A. A user may not execute scripts inside his home-directory
B. The PATH-variable doesn't include the . entry
C. A normal user may not execute shellscripts anywhere
D. The environment variable EXEC is not set
E. An error inside the script
```

(56) How could you describe the following commandline?
```
foo && bar
```
Choose the best answer.

```
A. The command foo is started in the background, the command bar
   is started in the foreground.

B. The command foo and the command bar are started simultaneously.

C. The command bar is only processed if the command foo leaves
   without error.

D. The command bar is only processed if the command foo leaves
   with an error.

E. This isn't a valid commandline
```

Exam Linux-Praxis - 1
Answers

```
 1. D. ls | mail Bob
 2. E. The commands foo and bar are started in the background,
       foobar is started in the foreground
 3. C. unset FOO
 4. C. All files in the current directory and in all included
       subdirectories which are smaller than 12 KByte will be
       copied to /tmp.
 5. C. grep foo /etc/passwd | cut -d: -f4
 6. wc
 7. D. The files /home/foo/bar and /home/bar/foo are copied into
       the directory /foo
 8. A. Get the list of jobs using the jobs command and then use:
       fg jobID
 9. kill
10. C. the priority of the process is lower than normal
11. C. A non uppercase letter followed by either an ! or an
       uppercase letter

12. A. All files beginning with an uppercase letter followed by
       one *
13. D. fdisk -l
14. B. A user has created lots of very small files.
15. B. mount /dev/hdc7
    C. mount /dev/hdc7 /usr/local
    D. mount /usr/local
16. A. repquota /home
17. B. Everybody who executes this file does this under the EUID
       of foo (EUID = Effective User ID)
18. umask
19. C. chown foo foobar
20. E. There is no way to differ between file and link
21. A. locate can find any file in the system which was created
       before the last call of updatedb

22. dmesg
23. A. shutdown -r now
    D. init 6
    E. reboot
24. D. It stores a list of all directories which contain manpages.
25. B. Create a new password for him using the command
       "passwd paul" and tell him his new password.
26. C. gpasswd -A bar foo
27. /etc/skel
28. E. It displays every new line of the file /var/log/messages
       while this file is growing
29. C. The command foo redirects its output to the command tee
       which writes it into the file bar and sends the same
       further to the command foobar
30. E. This isn't a valid commandline.
31. B. MYPATH=$PATH
32. D. chown -R foobar /home/foo
    E. chown --recursive foobar /home/foo

33. C. grep foo /etc/passwd | cut -d: -f4
34. tac
35. C. The current directory is changed to the home directory of
       the user foo.
36. A. Ctrl-Z
```

37. A. Ctrl-C
    C. kill -9 PID
    D. kill PID
38. nice
39. B. sed
    D. grep
40. A. foo.bar foo.1bar foo.2bar
    C. foo.1bar foo.2bar foo.Fbar
41. hdc5
42. E. df -i /dev/hda3
43. D. Nothing. They are still there
44. A. repquota /home
45. chmod
46. B. 644
47. chown and chgrp
48. C. The link exists and it is possible to have access to it's
       content
49. B. /proc
    D. /dev
    E. /etc
50. D. fsck -f /dev/hdb7
51. E. Enter the number of the displaymanager runlevel in the
       entry of the default runlevel in /etc/inittab.
52. C. about system administration commands (usually only for
       root)
53. E. /bin/false
54. D. Any user who is not member of the group foo but wants
       permission to a file belonging to this group
55. B. The PATH-variable doesn't include the . entry
56. C. The command bar is only processed if the command foo leaves
       without error.