1) Analyze the structure of the /etc/passwd and /etc/group file, what fields are present in it, what users exist on the system? Specify several pseudo-users, how to define them?

/etc/passwd File Structure: The /etc/passwd file contains user account information. Each line has the following structure: **username: pswd: uid: gid: uid comments: directory: shell**

/etc/group File Structure: The /etc/ group contains group information. Each line has the following structure: **group_name:password:group_id:list**

Pseudo-users: daemon **(**used by system service processes), bin (gives ownership of executables command), adm (owns registration files), nobody (used by many services), sshd (used by the secure shell server)

2) What are the uid ranges? What is UID? How to define it?

UID - unique identifier of the user within the system. It has ranges from 0 to 65535, where 0 is root, 1-999 is system accounts, 1000+ regular users

3) What is GID? How to define it?

GID - unique identifier of the group within the system to which the user belongs

4) How to determine belonging of user to the specific group?

groups <username>

5) What are the commands for adding a user to the system? What are the basic parameters required to create a user?

The commands for adding a user to the system are **useradd**, **adduser**

The basic parameter required to create a user is **username**

6) How do I change the name (account name) of an existing user?

usermode -l <new_username> <old_username>

7) What is skel_dir? What is its structure?

skel_dir – is directory that contains files which must be copied to the new user's home directory.

```
student@CsnKhai:/etc/skel$ ls -al
total 20
drwxr-xr-x  2 root root 4096 Sep 15  2015 .
drwxr-xr-x 83 root root 4096 Aug 17 08:43 ..
-rw-r--r--  1 root root  220 Apr  9  2014 .bash_logout
-rw-r--r--  1 root root 3637 Apr  9  2014 .bashrc
-rw-r--r--  1 root root  675 Apr  9  2014 .profile
```

Structure of skel directory

8) How to remove a user from the system (including his mailbox)?

userdel -r <username>

-r – remove user's home directory where where milbox is located

9) What commands and keys should be used to lock and unlock a user account?

passwd -key <username>

-l – lock the user

-u – inlock the user

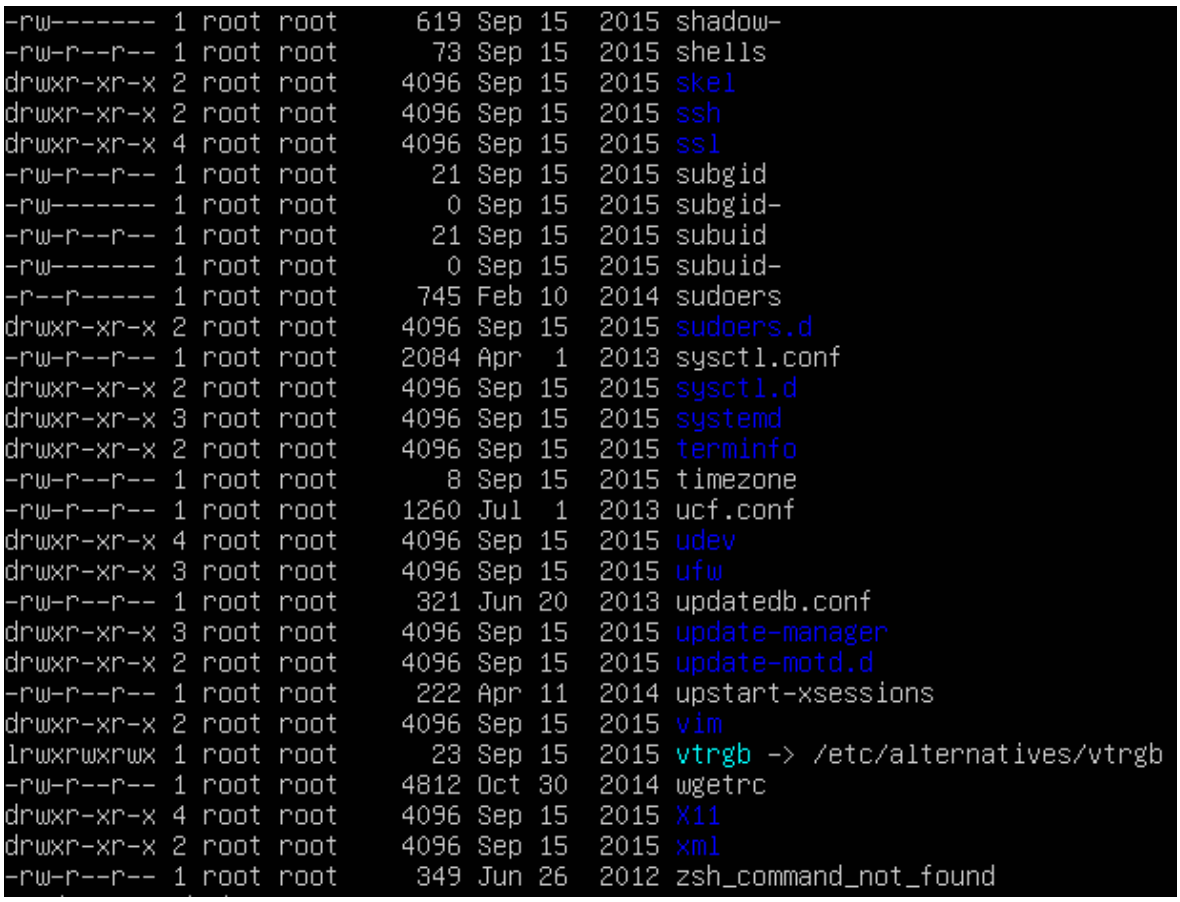
10) How to remove a user's password and provide him with a password-free login for subsequent password change?

passwd -e <username>

11) Display the extended format of information about the directory, tell about the information columns displayed on the terminal.

The first letter represents the file type: d (directory), b (block device), l (symbolic link), c (character device), p (pipe) and s (socket)

The other 9 letters represent permissions for owner, group and other users (every 3 letter)



ls -l /etc

12) What access rights exist and for whom (i. e., describe the main roles)? Briefly describe the acronym for access rights.

Roles: owner, group and others.

Each role has r (read), w (write) and x (execute)

permissions

13) What is the sequence of defining the relationship between the file and the user?

UID -> GID -> outsider

14) What commands are used to change the owner of a file (directory), as well as the mode of access to the file? Give examples, demonstrate on the terminal.

```
student@CsnKhai:~$ ls -l
total 4
-rw-rw-r-- 1 student student    0 Aug 17 09:29 my_own_file
drwxrwxr-x 2 student student 4096 Aug 15 13:06 test
student@CsnKhai:~$ chmod o=rw my_own_file
student@CsnKhai:~$ ls -l
total 4
-rw-rw-rw- 1 student student    0 Aug 17 09:29 my_own_file
drwxrwxr-x 2 student student 4096 Aug 15 13:06 test
```

File permission

To change owner of a file is used **chowm** command

15) What is an example of octal representation of access rights? Describe the umask command.

rwx – 4 + 2 + 1 =7

rw – 4 + 2 = 6

r-x – 4 + 1 = 5

-wx – 2 + 1 = 3

16) Give definitions of sticky bits and mechanism of identifier substitution. Give an example of files and directories with these attributes.

The sticky bit is a special permission that can be set on directories to control deletion of files within that directory.

```
student@CsnKhai:~$ ls -l
total 4
-rw-rw-rw- 1 student student    0 Aug 17 09:29 my_own_file
drwxrwxr-x 2 student student 4096 Aug 15 13:06 test
student@CsnKhai:~$ chmod o+t /test
chmod: cannot access '/test': No such file or directory
student@CsnKhai:~$ chmod o+t test
student@CsnKhai:~$ ls -l
total 4
-rw-rw-rw- 1 student student    0 Aug 17 09:29 my_own_file
drwxrwxr-t 2 student student 4096 Aug 15 13:06 test
```

17) What file attributes should be present in the command script?