Access permissions and command find.

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User accout

- What information must the OS remember about every user?
- Where the previous information are stored?

Access permissions

- How to determine effective and real user identity of your shell?
- How to determine effective and real group identity of your shell?
- How to determine the owner and owner group of the file `/usr/bin/passwd`?
- How to print only access permissions of the directory `/etc`? What is the meaning of these permissions?

Access permissions

- Login to server `fray1.fit.cvut.cz`.
- What permissions has the directory `/bin` and what does it mean?

Access permissions

- Create the following directory structure in the directory `/tmp` and setup the same permissions (files `passwd` and `date` are copies of `/etc/passwd` and `/bin/date`, respectively). You and your primary group will be the owner and owner group.

```
dr-x------ user group ps1
dr-x------ user group ps1/A
-r-x------ user group ps1/A/date
-r-x------ user group ps1/A/passwd
```

Access permissions

- What minimal permissions (minimal sum of permission weights) must be set on files or directories, such that you can successfully execute the following commands?
  - `ls -ld /tmp/ps1/A`
  - `ls /tmp/ps1/A`
  - `ls -l /tmp/ps1/A`

Access permissions

- `ls -l /tmp/ps1/A/passwd`
- `cat /tmp/ps1/A/passwd`
- `echo "aaaaa" >> /tmp/ps1/A/passwd`

Access permissions

- `echo "bbbbb" > /tmp/ps1/A/passwd`
- `/tmp/ps1/A/date`
- `rm /tmp/ps1/A/passwd`

Default access permissions

- What access permissions will have new created directory and file? Why?
- What must be done to newly created files/directories should have automatically the following access rights (don't use command `chmod`)?
  - `directory: rwx --- ---  file: rw- --- ---`
  - `directory: rw- -w- r--  file: rw- -w- r--`

Command `find`

- How to print only the number of regular files, which are in the directory `/usr/bin` (recursively) on the standard output?
- How to print only the number of symbolic links, which are in the directory `/usr/bin` (recursively) on the standard output?
- How to print only the number of regular files and symbolic links, which are in the directory `/usr/bin` (recursively) on the standard output?

Command `find`

- Create files and directory by the following commands.

```
mkdir -p A/B/C
```

```
touch {A,A/B,A/B/C}/\
{,a,b,c}{,k,l,m}{,x,y,z}.{c,cpp,tar,gz,txt}
```

1. How to print names of regular files, which have a suffix of length 3. (eg. `abc.txt` or `xz.cpp`)?
2. How to print names of regular files, which consist of a prefix of length 2 and the suffix `.c` or `.cpp` (eg. `ab.c` or `xz.cpp`)?
3. How to remove files found in question 1?

Command `find`

- How to print names of regular files from your home directory (recursively), that were modified during today, and how to verify the result by the command `stat`?
- How to print names of regular files from your home directory (recursively), that were modified during last 3 days, and how to verify the result by the command `stat`?
- How to print only names of all regular files, which have set write permission for owner or exec permission for other and are located in the directory `/etc` (recursively)? For every such file run command `ls -l` to verify the permissions.

Command `find`

- How to print only names of regular files, which are shell scripts and are located in the directory `/usr/bin` (recursively), on the standard output?
  1. Hint: The script is the file with the following first line

     ```
     #! /bin/sh
     ```

  2. Hint: Use the command `file`.
- How to print all hard links of the file `/etc/init.d/pppd` in directory `/etc` (recursively) on the serve `fray1.fit.cvut.cz`.

Homework

- How to print names of regular files from your home directory, that have size bigger then 2 megabytes, and how to verify the result by the command `stat`?
- How to print names of all files from your home directory, that were accessed 7 days ago, and how to verify the result by the command `stat`?
- How to print names of regular files from the directory `/tmp`, that you can read, and how to verify the result by the command `ls`?