1. Прочитайте короткі теоретичні відомості до лабораторної роботи та зробіть невеликий словник базових англійських термінів з питань призначення команд та їх параметрів.

Term	Purpose
File	A unit of data storage that can contain text, programs, images, etc.
Directory	A type of file used to store other files.
Command Line Interface (CLI)	A text-based interface for interacting with the computer by entering commands.
GUI-based applications	Graphical User Interface applications that provide a visual way to interact with the computer.
Root directory	The top-level directory in the Linux filesystem, symbolized by the slash (/) character.
Filesystem Hierarchy Standard (FHS)	A standard that defines the directory structure and organization in Linux systems.
Home directory	A unique directory assigned to each user account upon creation.
Globbing	A process in the shell where special characters (glob characters or wildcards) are used to match filenames based on patterns.
cp command	Used to copy files from a source location to a destination location. Syntax: cp [source] [destination].
mv command	Used to move files from one location to another or rename files. Syntax: mv [source] [destination].
Touch command:	Used to create an empty file or update file timestamps. Syntax: touch [filename].
rm command	Used to remove/delete files or directories. Syntax: rm [options] [file/directory].

2. На базі розглянутого матеріалу дайте відповіді на наступні питання:
    1. Порівняйте файлові структури Windows-подібної та Linux-подібної системи.

- Directory structure

The Linux directory structure doesn't just use different names for folders and files. It uses a generally different principle of their location. For example, an application in Windows can store all its files in the folder C:\Program Files\application_name, while in Linux these files will be divided among several places: binaries will be in /usr/bin, libraries can be in /usr/ lib, and configuration files can be in /etc/.

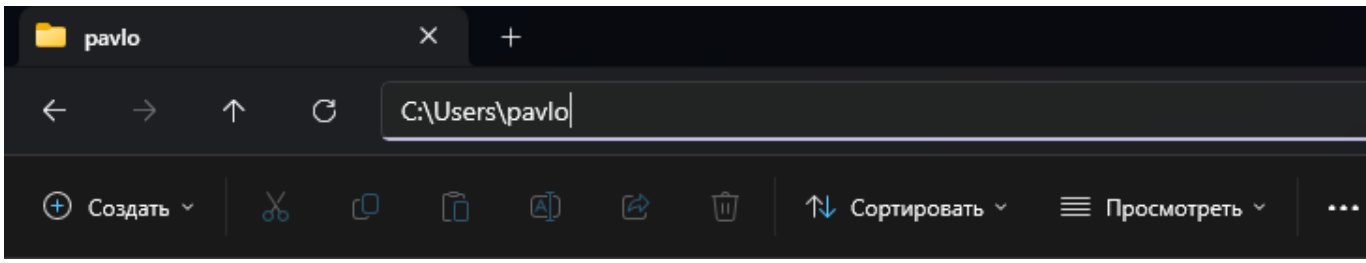
- Case sensitivity

In Windows, you cannot have both file and FILE files in the same folder. The Windows file system is not case-sensitive, so it treats similar names as a single file name.

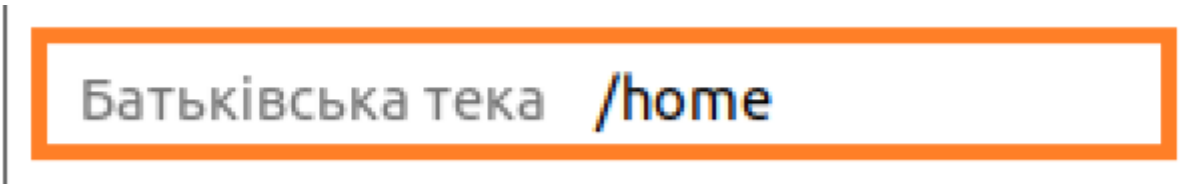
In Linux, the file system is case-sensitive, which means that you can have files named file, File, and FILE in the same folder. In this case, the files will differ in their contents because Linux treats uppercase and lowercase letters as different characters.

- Slash vs. backslash

Windows, like DOS, uses a backslash to indicate the slash of a file. For example, the path to the user directory in Windows looks like this: C:\Users\username



On Linux, the path to the user's home directory is as follows: /home/username



2. Розкрийте поняття FHS. Як даний стандарт використовується в контексті файлових систем?

The Filesystem Hierarchy Standard (FHS) is a reference describing the conventions used for the layout of Unix-like systems. It has been made popular by its use in Linux distributions, but it is used by other Unix-like systems as well. In simple terms, it sets standard directory names and their purpose. For example:

- /bin: system executable files
- /etc: configuration files
- /home: user home directories
- /var: modifiable data such as logs and caches
- /usr: programs and files shared by all users
- /lib: libraries

3. Перерахуйте основні команди для роботи з файлами та каталогами в Linux: створення, переміщення, копіювання, видалення.

- Create a directory: mkdir [directory_name].
- Create a file: touch [file_name]
- Moving: mv [source] [destination].
- Copy a file: cp [source] [destination]
- Copy a directory: cp -r [source_directory] [destination_directory]
- Delete a file: rm [file]
- Delete a directory: rm -r [directory]

Хід роботи:

1. Початкова робота в CLI-режимі в Linux ОС сімейства Linux:
   1. Запустіть віртуальну машину VirtualBox, оберіть CentOS та запустіть її. Виконайте вхід в систему під користувачем: CentOS, пароль для входу: reverse ***(якщо виконуєте ЛР у 401 ауд.)*** та запустіть термінал.
   2. Запустіть віртуальну машину Ubuntu_PC ***(якщо виконуєте завдання ЛР через академію netacad)***
   3. Запустіть свою операційну систему сімейства Linux ***(якщо працюєте на власному ПК та її встановили)*** та запустіть термінал. Опрацюйте всі приклади команд, що представлені у

лабораторних роботах курсу ***NDG Linux Essentials - Lab 7: Navigating the Filesystem*** та ***Lab 8: Managing Files and Directories.*** Створіть таблицю для опису цих команд

Назва команди	Її призначення та функціональність
pwd	Визначає місце знаходження користувача у файловій системі, показує поточну робочу директорію (print working directory)
cd Documents	Команда **cd** здійснює перехід до каталогу, який у неї вказаний як аргумент. В даному випадку це каталог **Documents**
echo $HOME	Command to see the path to your home directory.
cd /	cd /: Changes the current working directory to the root directory of the file system.
cd	The cd command, without any argument, simply takes you to your home user directory. This means that you will be taken to the folder that is your home folder under your username.
cd/home	The cd command may be entered with a path to a directory specified as an argument. The cd /home command will go to the /home directory on the system
cd ~	The cd ~ command, or simply cd (without any argument), takes you to your user home directory, which is where your main files and settings are located. The tilde symbol (~) is used as an alternative way to refer to the home directory.
echo ~ ~sysadmin ~root ~mail ~nobody	Use the echo command to display some other examples of using the tilde as part of the path.
cd /usr/bin pwd	Using an absolute path, change to the /usr/bin directory and display the working directory.
cd /usr pwd	Use an absolute path to change to the /usr directory and display the working directory.
cd /usr/share/doc pwd	Use an absolute path to change to the /usr/share/doc directory and display the working directory.
cd bash pwd	Using a relative path, change to the /usr/share/doc/bash directory and display the working directory. If there wasn't a bash directory under the current directory, the previous command would fail.
cd .. pwd	Use a relative path to change to the directory above the current directory. The .. represents one level above your current directory location.
cd ../dict pwd	Use a relative path to change up one level from the current directory and then down into the dict directory.
cd ls	The command to list the contents of the current directory.
ls -a	The command to display all files, including hidden files.
ls -l /etc/hosts	The command to see how the -l option provides more information about a file.
ls -R /etc/udev	A command that allows you to view the contents of a directory and the contents of subdirectories.
ls -d /etc/s*	The command to display only the files that begin with the letter s in the /etc directory.
ls -d /etc/????	The command to display all of the files in the /etc directory that are exactly four characters long.

ls -d /etc/[abcd]*	Command to display all files in the /etc directory that start with the letters a, b, c, or d.
echo *	The command to display all filenames in the current directory that match the glob pattern *.
echo D* echo P*	The commands will display all the files in the current directory that start with the letter D, and the letter P.
echo *s	The asterisk * can be used anywhere in the string. The command will display all the files in your current directory that end in the letter s.
echo D*n*s	Note that the asterisk can also appear multiple times or in the middle of multiple characters. The command will show all files in your current directory that start with D, contain n, and end with s.
echo ??????	The command to display the filenames that are exactly six characters long.
echo D????????	The command to display the file names that start with the letter D and are exactly nine characters long.
echo ?????*s	The command will display file names that are at least six characters long and end in the letter s.
echo [DP]* echo [!DP]*	In the first example, the first character of the file name can be either a D or a P. In the second example, the first character can be any character except a D or P.
echo [D-P]* echo [!D-P]*	In the first example, the first character of the file name can be any character starting at D and ending at P. In the second example, this range of characters is negated, meaning any single character will match as long as it is not between the letters D and P.
ls cp /etc/hosts hosts ls	ls: This command displays a list of files and folders in your current working directory. cp /etc/hosts hosts: This command copies the /etc/hosts file from the root directory to the current working directory and renames it to hosts. ls: After copying the file, this second ls command will list the files and folders in your current working directory, including the newly created hosts file.
rm hosts ls cp –v /etc/hosts hosts ls	rm hosts: This command removes the hosts file from the current working directory. ls: After deleting the hosts file, this ls command will list the files and folders in your current working directory.cp -v /etc/hosts hosts: This command copies the /etc/hosts file from the root directory to the current working directory and renames it to hosts. The -v option tells the cp command to print detailed information about the copying process.ls: After copying the file, this second ls command will list the files and folders in your current working directory, including the newly created hosts file.
rm hosts ls cp –v /etc/hosts . ls	Just like the previous command, but to copy the /etc/hosts file, we use the dot . to indicate the current directory as the target:
rm hosts ls	rm hosts: This command deletes the hosts file from your current directory ls: After deleting the hosts file, the ls command lists the files and folders in your current directory. cd /etc: This command changes your current working directory to /etc, which is the system directory where the configuration files are stored. ls -l

cd /etc ls -l hosts cp –p hosts /home/sysadmin cd ls –l hosts	hosts: After changing the directory to /etc, this ls command displays detailed information about the hosts file. cp -p hosts /home/sysadmin: This command copies the hosts file to the /home/sysadmin directory, preserving all its attributes. cd: This command takes you to your home user directory. ls -l hosts: After changing the directory to your home directory, this ls command displays the details of the hosts file in your home directory.
rm hosts cp -p /etc/hosts ~ ~ cp -p /etc/hosts cp hosts newname ls -l hosts newname rm hosts newname	The first copy with the -p option preserved the original timestamp. The second copy specified a different filename (newname) as the target. Because it was issued without the -p option, the system used the current date and time for the target; thus, it did not preserve the original timestamp found in the source file /etc/hosts.
mkdir Myetc cp –R /etc/udev Myetc ls –l Myetc ls –lR Myetc	mkdir Myetc: This command creates a new directory named Myetc. cp -R /etc/udev Myetc: This command copies the contents of the /etc/udev directory along with its contents to the new Myetc directory. The -R option specifies recursive copying, meaning that it also copies all subdirectories and their files. ls -l Myetc: This command displays detailed information about the files and folders in the Myetc directory. ls -lR Myetc: This command displays detailed information about the files and folders in the Myetc directory and all its subdirectories (recursively).
ls rm -r Myetc ls	To remove a directory, use the -r option to the rm command
touch premove ls mv premove postmove ls rm postmove	touch premove: This command creates a file named premove. ls: This command displays a list of files and folders in your current directory. mv premove postmove: This command renames the premove file to postmove.ls: After renaming the file, this second ls command lists the files and folders in your current directory. rm postmove: This command removes the postmove file from your current directory.