LAB- 7 08/08/2025

(1) The apropos command allows you to search the system's manual pages for commands that match a specific task or keyword. This is particularly useful when you need to find a command that performs a specific task but you don't know the name of the command. Try the following and display the output in your lab document.

(i) apropos "search for files"

(ii) apropos "list directory contents". Another way to get the same output is apropos "^list.*directory" (note the use of wildcards here). The ^ denotes that there is no other character before the word 'list' in the search.

(iii) apropos "file compress"

(iv) apropos "file.*copy$" (The $ denotes that there is no character to be searched after the word 'copy'.

Come up with 3 more keywords/phrases that you can try for this command and got meaningful output (show the screenshots of all your outputs)

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ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "search for files"
find (1)              - search for files in a directory hierarchy
suspicious-source (1) - search for files that do not meet the GPL's definition of "source" for a work
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "list directory contents"
dir (1)               - list directory contents
ls (1)                - list directory contents
ntfsls (8)            - list directory contents on an NTFS filesystem
vdir (1)              - list directory contents
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "list directory contents"
dir (1)               - list directory contents
ls (1)                - list directory contents
ntfsls (8)            - list directory contents on an NTFS filesystem
vdir (1)              - list directory contents
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "list.*directory"
chacl (1)             - change the access control list of a file or directory
dir (1)               - list directory contents
File::DirList (3pm)   - provide a sorted list of directory content
ls (1)                - list directory contents
ntfsls (8)            - list directory contents on an NTFS filesystem
vdir (1)              - list directory contents
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "file compress"
bunzip2 (1)           - a block-sorting file compressor, v1.0.8
bzip2 (1)             - a block-sorting file compressor, v1.0.8
Dpkg::Compression::FileHandle (3perl) - class dealing transparently with file compression
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ "file *copy$"
file *copy$: command not found
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ "file.*copy$"
file.*copy$: command not found
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "file.*copy$"
rcp (1)               - OpenSSH secure file copy
scp (1)               - OpenSSH secure file copy
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "change file permissions"
change file permissions: nothing appropriate.
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ "compare files"
compare files: command not found
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "compare files"
diff (1)              - compare files line by line
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ apropos "remove directory"
remove directory: nothing appropriate.
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ cd .
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ cd ..
ibab@IBAB-MSc-BDB-Comp06:~/Downloads$ apropos "remove directory"
remove directory: nothing appropriate.
ibab@IBAB-MSc-BDB-Comp06:~/Downloads$ cd ..
ibab@IBAB-MSc-BDB-Comp06:~$ apropos "remove directory"
remove directory: nothing appropriate.
ibab@IBAB-MSc-BDB-Comp06:~$ apropos "^list.*directory"
dir (1)               - list directory contents
ls (1)                - list directory contents
ntfsls (8)            - list directory contents on an NTFS filesystem
vdir (1)              - list directory contents
ibab@IBAB-MSc-BDB-Comp06:~$ 
```

(2) File permisisons. Try the following exercises and explain the output in your work.

(i) touch newfile followed by ls a-l newfile. Describe the permissions set for the user, group and everyone else.

(ii) Print the output of umask command. Explain what is the actual level of default permission based on this output for a file, and for a directory

(iii) Create a new file in your Lab7 directory and print and explain the current permissions for the file. Write down the octal values for the user, group and everyone else

(iv) Create a new directory in your Lab7 directory and print and and explain the current permissions for the file. Write down the octal values for the user, group and everyone else.

(v) Copy the new file from above to the new directory and list the permissions of the file inside the directory. Is it the same as the file outside the directory? What does this tell you about the copying action?

(vi) Change the permissions of the directory such that it is only readable and writable by the user and the group, and only readable by everyone else. What happens to the permissions of the file inside the directory? Does it inherit the new permissions you just set? What are the new octal values for the directory permissions?

(vii) Move the above-created new file to the new directory under a different name. Does the moving action change the file permissions?

Ans- (i) rw- 4=2 =6
        r-- = 4
        r-- =4
        Final Octal 644

- = regular File
rw- (user) = read and write permission for the owner
r-- (group)= Read only for Group members
r-- (others)= read only for everyone else

(ii) Umask is a substractive mask from the maximum permissions
    Max default permissions –

666- rw-rw-rw (file)
777- rwxrwxrwx (directory)
File – 666- 002= 664
Directory- 777-002= 775

(iii) USER- read + Write =6

Group- read + Write=6
Others- Read Only = 4
 Octal – 664
(iv) User- read,Write Execute =7
    Group- read, write Execute=7
    Others- Read, Execute = 5
    octal -775

(v)Copying does not change file permissions

(vi) rw- (read+write, no execute)
    --x (only executable)
    --- (no permission)

(vii) User- rwx- 7
     group rwx- 7
     others r-- -4
     Octal 774

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ibab@IBAB-MSc-BDB-Comp06:~$ mkdir LAB7
ibab@IBAB-MSc-BDB-Comp06:~$ cd Downloads
ibab@IBAB-MSc-BDB-Comp06:~/Downloads$ mkdir LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads$ ls -ld LAB7
drwxrwxr-x 2 ibab ibab 4096 Aug  8 16:08 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads$ cd LAb7
bash: cd: LAb7: No such file or directory
ibab@IBAB-MSc-BDB-Comp06:~/Downloads$ cd LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ touch LAB7 file1.txt
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -l
total 0
-rw-rw-r-- 1 ibab ibab 0 Aug  8 16:11 file1.txt
-rw-rw-r-- 1 ibab ibab 0 Aug  8 16:11 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ chmod g-r LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -ld
drwxrwxr-x 2 ibab ibab 4096 Aug  8 16:11 .
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ chmod g-x LAb7
chmod: cannot access 'LAb7': No such file or directory
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ chmod g-x LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -ld LAB7
-rw--w-r-- 1 ibab ibab 0 Aug  8 16:11 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ cd
ibab@IBAB-MSc-BDB-Comp06:~$ cd Downloads/LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ chmod g+rwx LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -ld LAB7
-rw-rwxr-- 1 ibab ibab 0 Aug  8 16:11 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ chmod 774 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -ld LAb7
ls: cannot access 'LAb7': No such file or directory
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -ld LAB7
-rwxrwxr-- 1 ibab ibab 0 Aug  8 16:11 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$
```

```
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ cp file1.txt LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$ ls -l
total 0
-rw-rw-r-- 1 ibab ibab 0 Aug  8 16:11 file1.txt
-rwxrwxr-- 1 ibab ibab 0 Aug  8 16:55 LAB7
ibab@IBAB-MSc-BDB-Comp06:~/Downloads/LAB7$
```