**Operating System**

**(4ITRC2)**

**IT IV Semester**

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**Session 2023-2027**

**Outputs of the following commands**

1. *pwd (Print Working Directory)*

Displays the current working directory.

1. *cd (Change Directory)*

Changes the directory, but no output if successful.

1. *ls (List files)*

Lists files and directories in the current directory.

1. *mkdir (Make Directory)*

Creates a new directory but does not print anything if successful.

1. *rm (Remove Files/Directories)*

Deletes files/directories and shows no output unless there’s an error.

1. *touch (Create Empty File)*

Creates an empty file but does not print anything if successful.

1. *hostname (Show System Name)*

Displays the name of the system.

1. *cat (View file contents)*

Displays the content of a file.

1. *chmod (Change file Permissions)*

Changes file permissions but does not print anything if successful.

1. *echo (Print Text/String)*

Prints text or variable values to the terminal.

1. *grep (Search Text in a file)*

Searches for pattern in a file and prints matching lines.

1. *fgrep (fixed String Search)*

Similar to grep, but searches for exact fixed strings.

1. *mv (move/rename files)*

Moves or renames a file but does not print anything if successful.

1. *cp (copy files/directories)*

Copies files but does not print anything if successful.

1. *more (view file page-by-page)*

Displays a file one screen at a time, pressing space moves forward.

1. *less (view file with scrolling)*

Displays a file like more, but allows backward scrolling.

1. *wc (word count)*

Displays the number of lines, words and characters in a file.

1. *awk(Text processing)*

Extracts and processes text from files.

1. *sed (Stream Editor – Modify text)*

Modifies text based on a pattern.

1. *tail (View last lines of a file)*

Displays the last 10 lines of a file by default.

**Question/Answers**

1. **How to navigate to a Specific Directory?**

For navigating to any directory we use command ‘cd’ for getting to specific directory.

cd / path/to directory

**Example:**

cd / home/user/Documents

1. **How to see detailed information about files and directories using ls?**

The command ‘ls’ displays permissions, ownership, size and modification date of files.

ls -l

**Example:**

ls -l / home/user

1. **How to create multiple directories in Linux using mkdir command?**

The command ‘mkdir’ can makes the multiple directories as well as nested directories.

mkdir dir1 dir2 dir3

or created nested directories

mkdir -p parent/child/grandchild

1. **How to remove multiple files at once with rm?**

The command ‘rm’ basically removes multiple files from directories.

rm file1.txt file2.txt file3.txt

or delete all .txt files in a directory:

rm \*.txt

1. **Can rm be used to delete directories?**

Yes using -r option:

rm -r directory\_name

1. **How Do You Copy Files and Directories in Linux?**

Copy a file

cp source.txt destination.txt

Copy a directory (recursively):

cp -r source\_director/destination\_directory/

1. **How to Rename a file in Linux Using mv Command**

mv old\_filename.txt new\_filename.txt

1. **How to Move Multiple files in Linux Using mv Command**

mv file1.txt file2.txt file3.txt /destination/directory/

1. **How to Create Multiple Empty Files by Using Touch Command in Linux**

touch file1.txt file2.txt file3.txt

1. **How to View the Content of Multiple Files in Linux**

cat file1.txt file2.txt

1. **How to Create a file and add content in Linux Using cat Command**

cat > filename.txt (then type content and press Ctrl + D to save)

1. **How to Append the Contents of One File to the End of Another File using cat command**

cat source.txt >> destination.txt

1. **How to use cat command if the file has a lot of content and can’t fit in the terminal.**

cat largefile.txt | less

1. **How to Merge Contents of Multiple Files Using cat Command**

cat file1.txt file2.txt > merged.txt

1. **How to use cat Command to Append to an Existing File**

cat >> existing\_file.txt

Then type content and press Ctrl + D to save.

1. **What is “chmod 777 “, “chmod 755” and “chmod +x “or “chmod a+x”?**

* chmod 777 file.txt → Full permissions (read, write, execute for everyone)
* chmod 755 file.txt → Owner has full access, others can only read & execute
* chmod +x script.sh → Make file executable
* chmod a+x script.sh → Give execute permission to everyone

1. **How to find the number of lines that matches the given string/pattern**

grep -c "pattern" filename.txt

1. **How to display the files that contains the given string/pattern.**

grep -l "pattern" \*.txt

1. **How to show the line number of file with the line matched.**

grep -n "pattern" filename.txt

1. **. How to match the lines that start with a string using grep**

grep "^pattern" filename.txt

1. **Can the ‘sort’ command be used to sort files in descending order by default?**

sort -r filename.txt (by default sort in ascending order)

1. **How can I sort a file based on a specific column using the ‘sort’ command?**

If sorting by the 2nd column,

sort -k2 filename.txt

for numeric sorting based on 3rd column,

sort -k3 -n filename.txt

Thank You