# 4ITRC2 Operating System Lab

## Lab Assignment 2

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Aim: To study and understand Ubuntu Commands.

To Perform: Execute different commands.

## Part 1: Outputs of the following commands:-

* $ pwd - Displays the present working directory.  
  output:  
  $ pwd
* $ cd - Changes the current directory.  
  output:  
  $ cd
* $ ls - Lists files and directories in the current location.  
  output:  
  $ ls
* $ mkdir - Creates a new directory.  
   output:  
  $ mkdir
* $ rm - Removes files or directories.  
   output:

$ rm

* $ touch - Creates an empty file.  
  output:  
  $ touch
* $ hostname - Displays the system's hostname.  
   output:  
  $ hostname
* $ cat - Displays the content of a file.  
  output:  
  $ cat  
    
   $ chmod - Changes file permissions.  
  output:  
  $ chmod
* $ echo - Prints text to the terminal.  
  output:  
  $ echo
* $ grep - Searches for patterns within files.  
  output:  
  $ grep
* $ fgrep - Searches for a fixed string in a file.  
   output:  
  $ fgrep
* $ mv - Moves or renames files.  
  output:  
  $ mv
* $ cp - Copies files and directories.  
  output:  
  $ cp
* $ more - Displays file content one page at a time.  
  output:  
  $ more
* $ less - Similar to 'more' but with additional navigation features.  
  output:  
  $ less
* $ wc - Counts words, lines, and characters in a file.  
  output:  
  $ wc
* $ awk - A text processing tool.  
  output:  
  $ awk
* $ sed - A stream editor for modifying text.  
  output:  
  $ sed
* $ tail - Displays the last few lines of a file.  
   output:  
  $ tail

## Part 2: Answers to the following Questions

* 1. How to navigate to a Specific Directory?

Use the `cd` command. Example:  
 cd /home/user/Documents

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

Use the `ls -l` command to list details:  
 ls -l

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

Use:  
 mkdir dir1 dir2 dir3

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

Use:  
 rm file1 file2 file3

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

Yes, with `rm -r directory\_name`. Be careful as it permanently deletes data.

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

Use `cp`:  
 cp file.txt /destination/path

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

Use:  
 mv oldname newname

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

Use:  
 mv file1 file2 directory/

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

Use:  
 touch file1 file2 file3

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

Use:  
 cat file1 file2

* **11. How to Create a file and add content in Linux Using `cat` Command?**

Use:  
 cat > filename

* **12. How to Append the Contents of One File to Another?**

Use:  
 cat file1 >> file2

* **13. How to use cat if the file has a lot of content?**

Use `cat filename | more`

* **14. How to Merge Contents of Multiple Files Using `cat`?**

Use:  
 cat file1 file2 > mergedfile

* 15. **How to Append to an Existing File?**

Use:  
 cat >> filename

* 16**. What is `chmod 777`, `chmod 755` and `chmod +x`?**

`chmod 777`: Full access to everyone  
`chmod 755`: Read & execute for others, full for owner  
`chmod +x`: Makes a file executable.

* 17. **How to find the number of lines matching a pattern?**

Use:  
 grep -c 'pattern' filename

* 18. **How to display files containing a string?**

Use:  
 grep -l 'pattern' \*

* 19. **How to show line numbers with matches?**

Use:  
 grep -n 'pattern' filename

* 20. **How to match lines that start with a string?**

Use:  
 grep '^pattern' filename

* 21. **Can `sort` sort files in descending order by default?**

No, use `sort -r`. Example:  
 sort -r filename

* 22**. How to sort a file by a specific column?**

Use `sort -k column\_number filename`. Example:  
 sort -k2 filename