SYSTEM DESIGN LAB

Experiment no: 1
Date: 18/ 04/2021

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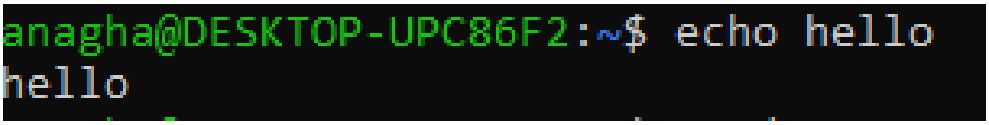
MCA S4

Familiarize with linux basic commands – echo, read, more, less, man, chmod, chown, cd, mkdir, pwd, ls, find, cat, mv, cp, rm, wc, cut, paste, head, tail, grep, expr ,tar

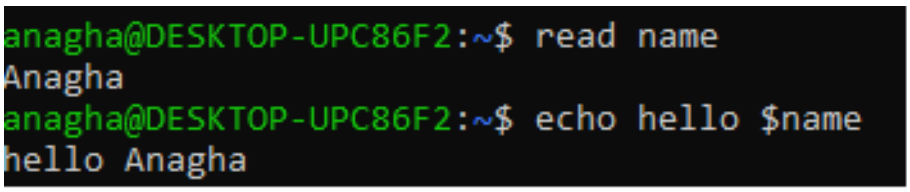
1. ECHO

echo - display a line of text. This command is used to move some data into a file. For example, if you want to add the text, “Hello, my name is John” into a file called name.txt, you would type echo Hello, my name is John >> name.txt



2. READ

read - read from a file descriptor. read command in Linux system is used to read from a file descriptor. Basically, this command read up the total number of bytes from the specified file descriptor into the buffer. If the number or count is zero then this command may detect the errors. But on success, it returns the number of bytes read. Zero indicates the end of the file.



3. MORE

more command is used to view the text files in the command prompt, displaying one screen at a time in case the file is large . The more

command also allows the user do scroll up and down through the page. Syntax: more [-options] [-num] [+/pattern] [+linenum] [file_name]

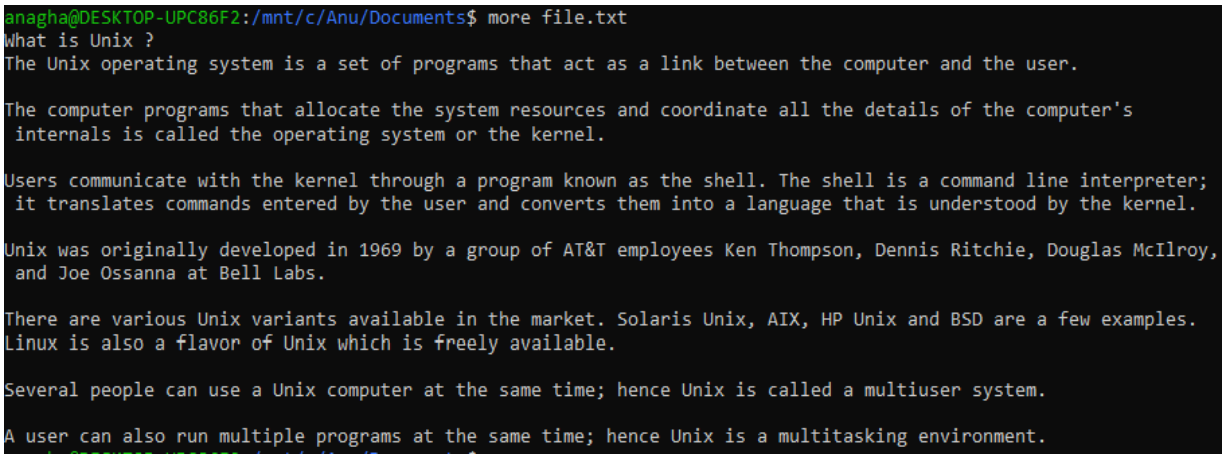
• [-options]: any option that you want to use in order to change the way the file is displayed. Choose any one from the followings: (-d, -l, -f, -p, -c, -s, -u)

• [-num]: type the number of lines that you want to display per screen.

• [+/pattern]: replace the pattern with any string that you want to find in the text file.

• [+linenum]: use the line number from where you want to start displaying the text content.

• [file_name]: name of the file containing the text that you want to display on the screen.



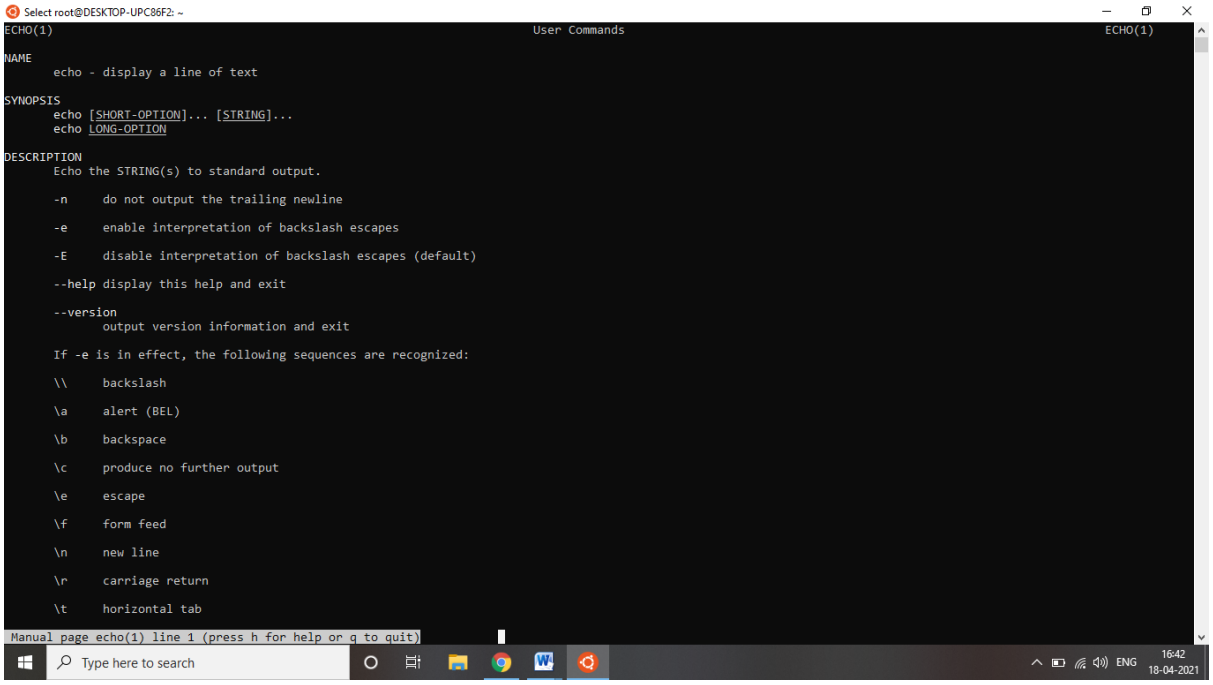
4. LESS

Less is a command line utility that displays the contents of a file or a command output, one page at a time. It is similar to more, but has more advanced features and allows you to navigate both forward and backward through the file.When starting less doesn't read the entire file which results in much faster load times.The less command is mostly used for opening large files.

```
anagha@DESKTOP-UPC86F2: /mnt/c/Anu/Documents
What is Unix ?
The Unix operating system is a set of programs that act as a link between the computer and the user.

The computer programs that allocate the system resources and coordinate all the details of the computer's
 internals is called the operating system or the kernel.

Users communicate with the kernel through a program known as the shell. The shell is a command line interpreter;
 it translates commands entered by the user and converts them into a language that is understood by the kernel.

Unix was originally developed in 1969 by a group of AT&T employees Ken Thompson, Dennis Ritchie, Douglas McIlroy,
 and Joe Ossanna at Bell Labs.

There are various Unix variants available in the market. Solaris Unix, AIX, HP Unix and BSD are a few examples.
Linux is also a flavor of Unix which is freely available.

Several people can use a Unix computer at the same time; hence Unix is called a multiuser system.

A user can also run multiple programs at the same time; hence Unix is a multitasking environment.
file.txt (END)
```

5. MAN

man command in Linux is used to display the user manual of any command that we can run on the terminal. It provides a detailed view of the command. $man echo



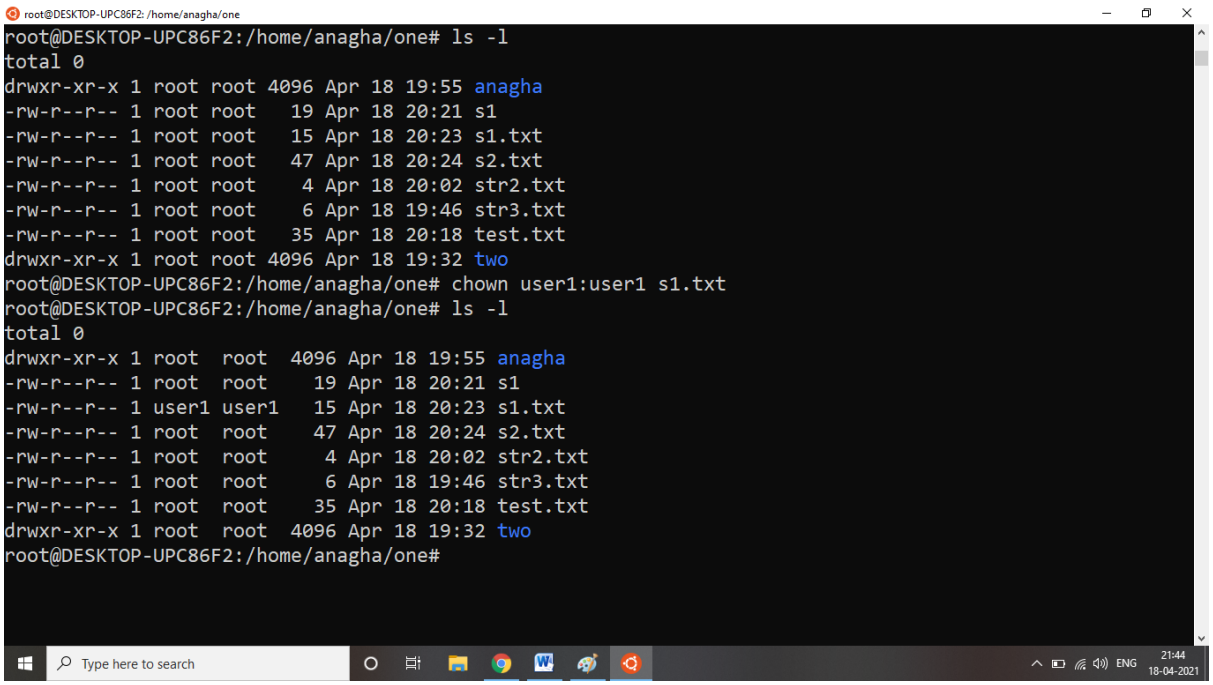
6. CHMOD

The chmod command is used to change the access mode of a file.The name is an abbreviation of change mode. Syntax : chmod [reference][operator][mode] file...

```
root@DESKTOP-UPC86F2:/home/anagha/one# ls -l
total 0
-rw-r--r-- 1 root root 19 Apr 18 19:23 test.txt
-rw-r--r-- 1 root root 13 Apr 18 19:24 test1.txt
root@DESKTOP-UPC86F2:/home/anagha/one# chmod 777 test.txt
root@DESKTOP-UPC86F2:/home/anagha/one# ls -l
total 0
-rwxrwxrwx 1 root root 19 Apr 18 19:23 test.txt
-rw-r--r-- 1 root root 13 Apr 18 19:24 test1.txt
root@DESKTOP-UPC86F2:/home/anagha/one#
```

7. CHOWN

chown command is used to change the file Owner or group. Syntax: chown [OPTION]… [OWNER][:[GROUP]] FILE… chown [OPTION]… –reference=RFILE FILE…



8. CD

To navigate through the Linux files and directories, use the cd command

```
anagha@DESKTOP-UPC86F2:~$ sudo su
[sudo] password for anagha:
root@DESKTOP-UPC86F2:/home/anagha# mkdir one
mkdir: cannot create directory ‘one’: File exists
root@DESKTOP-UPC86F2:/home/anagha# mkdir three
root@DESKTOP-UPC86F2:/home/anagha# cd three
root@DESKTOP-UPC86F2:/home/anagha/three#
```

9. MKDIR

Use mkdir command to make a new directory

```
anagha@DESKTOP-UPC86F2:~$ sudo su
[sudo] password for anagha:
root@DESKTOP-UPC86F2:/home/anagha# mkdir new
root@DESKTOP-UPC86F2:/home/anagha# ls
new  one  three
root@DESKTOP-UPC86F2:/home/anagha#
```

10.PWD

pwd stands for Print Working Directory. It prints the path of the working directory, starting from the root.

```
root@DESKTOP-UPC86F2:/home/anagha# pwd
/home/anagha
root@DESKTOP-UPC86F2:/home/anagha#
```

11.LS

Use the "ls" command to know what files are in the directory you are in. You can see all the hidden files by using the command “ls -a”.

```
root@DESKTOP-UPC86F2:/home/anagha# ls -a
.    .bash_history  .bashrc     .motd_shown  .sudo_as_admin_successful  one
..   .bash_logout   .landscape  .profile     new                        three
root@DESKTOP-UPC86F2:/home/anagha#
```

12.FIND

The find command in UNIX is a command line utility for walking a file hierarchy. It can be used to find files and directories and perform subsequent operations on them.

```
root@DESKTOP-UPC86F2:/home/anagha# find . -type f -name "test*"
./one/test.txt
./one/test1.txt
root@DESKTOP-UPC86F2:/home/anagha#
```

13.CAT

Use the cat command to display the contents of a file. It is usually used to easily view programs.

```
root@DESKTOP-UPC86F2:/home/anagha# cd one
root@DESKTOP-UPC86F2:/home/anagha/one# cat test.txt
Random Sample text
root@DESKTOP-UPC86F2:/home/anagha/one#
```

14.MV

Use the mv command to move files through the command line. We can also use the mv command to rename a file. For example, if we want to rename the file “text” to “new”, we can use “mv text new”.

```
root@DESKTOP-UPC86F2:/home/anagha/one# echo 'Hello' >str1.txt
root@DESKTOP-UPC86F2:/home/anagha/one# echo 'Anagha' >str2.txt
root@DESKTOP-UPC86F2:/home/anagha/one# ls -a
.  ..  anagha  str1.txt  str2.txt  test.txt  two
root@DESKTOP-UPC86F2:/home/anagha/one# mv str1.txt str3.txt
root@DESKTOP-UPC86F2:/home/anagha/one# ls -a
.  ..  anagha  str2.txt  str3.txt  test.txt  two
root@DESKTOP-UPC86F2:/home/anagha/one#
```

15.CP

Use the cp command to copy files through the command line. It takes two arguments: The first is the location of the file to be copied, the second is where to copy.

```
root@DESKTOP-UPC86F2:/home/anagha/one# ls
anagha  str2.txt  str3.txt  test.txt  two
root@DESKTOP-UPC86F2:/home/anagha/one# ls anagha
root@DESKTOP-UPC86F2:/home/anagha/one# ls anagha -a
.  ..
root@DESKTOP-UPC86F2:/home/anagha/one# cp str1.txt anagha
cp: cannot stat 'str1.txt': No such file or directory
root@DESKTOP-UPC86F2:/home/anagha/one# cp test.txt anagha
root@DESKTOP-UPC86F2:/home/anagha/one# ls anagha -a
.  ..  test.txt
```

16.RM

Use the rm command to delete files and directories. Use "rm -r" to delete just the directory. It deletes both the folder and the files it contains when using only the rm command.rm -i will ask before deleting each file. rm -f will forcibly delete files without asking.

```
root@DESKTOP-UPC86F2:/home/anagha/one# ls anagha -a
.  ..  test.txt
root@DESKTOP-UPC86F2:/home/anagha/one# rm anagha/test.txt
root@DESKTOP-UPC86F2:/home/anagha/one# ls anagha -a
.  ..
root@DESKTOP-UPC86F2:/home/anagha/one#
```

17.WC

The wc command allows you to count the number of lines, words, characters, and bytes of each given file or standard input and print the result.

```
root@DESKTOP-UPC86F2:/home/anagha/one# ls
anagha  str2.txt  str3.txt  test.txt  two
root@DESKTOP-UPC86F2:/home/anagha/one# cat str3.txt
Hello
root@DESKTOP-UPC86F2:/home/anagha/one# wc str3.txt
1 1 6 str3.txt
root@DESKTOP-UPC86F2:/home/anagha/one#
```

18.CUT

The cut command in UNIX is a command for cutting out the sections from each line of files and writing the result to standard output. It can be used to cut parts of a line by byte position, character and field.

```
root@DESKTOP-UPC86F2:/home/anagha/one# ls
anagha  str2.txt  str3.txt  test.txt  two
root@DESKTOP-UPC86F2:/home/anagha/one# cat str3.txt
Hello
root@DESKTOP-UPC86F2:/home/anagha/one# cut -b 1,2,3 str3.txt
Hel
root@DESKTOP-UPC86F2:/home/anagha/one#
```

19.PASTE

Paste command is one of the useful commands in Unix or Linux operating system. It is used to join files horizontally (parallel merging) by outputting lines consisting of lines from each file specified, separated by tab as delimiter, to the standard output.

```
root@DESKTOP-UPC86F2:/home/anagha/one# cat str3.txt
Hello
root@DESKTOP-UPC86F2:/home/anagha/one# cat str2.txt
Anagha
root@DESKTOP-UPC86F2:/home/anagha/one# paste str3.txt str2.txt
Hello   Anagha
root@DESKTOP-UPC86F2:/home/anagha/one#
```

20.HEAD

The head command is used to view the first lines of any text file. By default, it will show the first ten lines, but you can change this number to your liking. For example, if you only want to show the first five lines, type head -n 5 filename.ext

```
root@DESKTOP-UPC86F2:/home/anagha/one# cat test.txt
Check
this
out
root@DESKTOP-UPC86F2:/home/anagha/one# head test.txt
Check
this
out
root@DESKTOP-UPC86F2:/home/anagha/one# head -3 test.txt
Check
this
out
root@DESKTOP-UPC86F2:/home/anagha/one#
```

21.TAIL

This one has a similar function to the head command, but instead of showing the first lines, the tail command will display the last ten lines of a text file. For example, tail -n filename.ext.

```
root@DESKTOP-UPC86F2:/home/anagha/one# cat test.txt
Check
this
out
Command
Line
Prompt
root@DESKTOP-UPC86F2:/home/anagha/one# tail -3 test.txt
Command
Line
Prompt
root@DESKTOP-UPC86F2:/home/anagha/one#
```

22.GREP

The grep filter searches a file for a particular pattern of characters, and displays all lines that contain that pattern

```
root@DESKTOP-UPC86F2:/home/anagha/one# cat s2.txt
Joy is intelligent
John is brave
Navi is brave
root@DESKTOP-UPC86F2:/home/anagha/one# grep -i "brave" s2.txt
John is brave
Navi is brave
root@DESKTOP-UPC86F2:/home/anagha/one#
```

23.EXPR

The expr command in Unix evaluates a given expression and displays its corresponding output. It is used for: Basic operations like addition, subtraction, multiplication, division, and modulus on integers. Evaluating regular expressions, string operations like substring, length of strings etc.

```
root@DESKTOP-UPC86F2:/home/anagha/one# expr 20 + 40
60
root@DESKTOP-UPC86F2:/home/anagha/one#
```