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Lab 1 Report

1. The directory obtained is that of the initial user.
   /home/user_name
2. Commands interpreted:

cd ..	Goes back one directory
pwd	Prints in the console your current directory location
echo hello world	Prints in the console whatever
$SHELL	Executes “bash”
echo $SHELL	Prints the directory of what is being executed
echo {a,b}{1,2}	Prints the given matrix
date	Prints the current day
hostname	Prints the name of your server/computer
whoami	Prints the username
top	Opens a “Task manager” of the subsystem of VM
man ls	Opens a user manual for the given command (ls)
history	Prints the commands that have been used

3. Commands used:
   cd ..
   mkdir Lab1
   cd Lab1
   mkdir A
   mkdir B
4. Commands:

less	Opens a text editor for the given “.txt” file
cat	Prints a merge of 1 or more given “.txt” files
wc	Prints the number of lines, words and chars of a “.txt” file
cp	Copies the content of a “.txt” file into another
mv	Moves files between folders
rm.	Removes a file
grep	Searches and prints char patterns in a given “.txt” file
mkdir	Creates a new directory
gcc -v	Prints the “C” compiler version

5. Operators:

>	Overwrites the content of a given “.txt” file
>>	Adds content to a given “.txt” file as a new line

6. Commands used:
   cd A
   echo 1 2 3 4 5 > numbers.txt

echo a e i o u > vowels.txt

7. Difference between a symbolic link and a hard link: Hard link can be seen as a copy of the pointer of the original file and preserves the information found in the file. On the other hand, symbolic links point to other files, serving the function of ”shortcuts”. Symbolic links do not contain the information of the original file. If the target file of a symbolic link is deleted, it becomes useless. The aforementioned does not take place with hard links.
8. Commands used:

   cd Lab1

   rm -rf A
9. After eliminating directory A, the symbolic link is no longer functional, while the hard link is still functional with commands like less and cat.
10. Output of command: echo {con,pre}{sent,fer}{s,ed}: consents consented confers conferred presents presented prefers prefered. These outputs are all the words/char chains that can be formed using each of the 3 groups of letters/chars put inside the curly brackets {}. In this particular case, 8 different possibilities.
11. EMPTY
12. Displaying all the files in “/etc” that end with “.conf”

    cd /etc

    ls *.conf
13. Display files with at least one “a” on its name

    ls | grep a
14. Different functions of “ls”:

    ls -l Displays a detailed lists of the contents in a directory

    ls st_* Displays files that start with the given string

    ls --hide=*.en Hides from the listing the files that end with the given string
15. /bin, /usr/bin and /sbin seem to display executable commands to be used by the user of the command console. /sbin contain the same commands as /bin (single user mode) and also those ones than require the superuser privileges to be used. /usr/bin (system wide commands) is very similar to /bin.

    /tmp is where temporary files are saved and /boot contain all the elements needed to start/boot the system.
16. Each pointer has the same size according to the program (4 bytes) but there are differences in size for each of the 3 types of data present in the program (4 bytes for the int, 1 byte for the char and 8 bytes for the double).
17. It continues to run, but when printing the content of addresses outside the declared space for the array, the program shows “trash” values which are not part of the array.