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LONDON METROPOLITAN UNIVERSITY

Module Code & Module Title

CS5001NA Networks and Operating Systems

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Title: UNIX Command Utility

I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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INTRODUCTION

The main objectives of this coursework are as follows:

This coursework was assigned in the 10th week with the deadline in the next semester. This coursework was given to us as a step for introducing some relevant UNIX interface details using an application in windows known as Debian. We were tasked to use some UNIX commands as a practice for being familiar with these commands. All the tasks were done step by step by following the instructions carefully and was completed in time. Our module leaders also helped us solve our queries regarding this coursework and complete this coursework without too much difficulty.

TRANSCRIPT

Script started on 2020-03-15 17:48:57+05:45

Assignment Tasks

1. Creating New Directories (8%)

Task 1: Starting from your home directory, create the directory structure shown in Figure 1, staying in your home directory using relative pathnames **– 6 marks.**

Show the structure **– 2 marks. Stay in your home directory.**

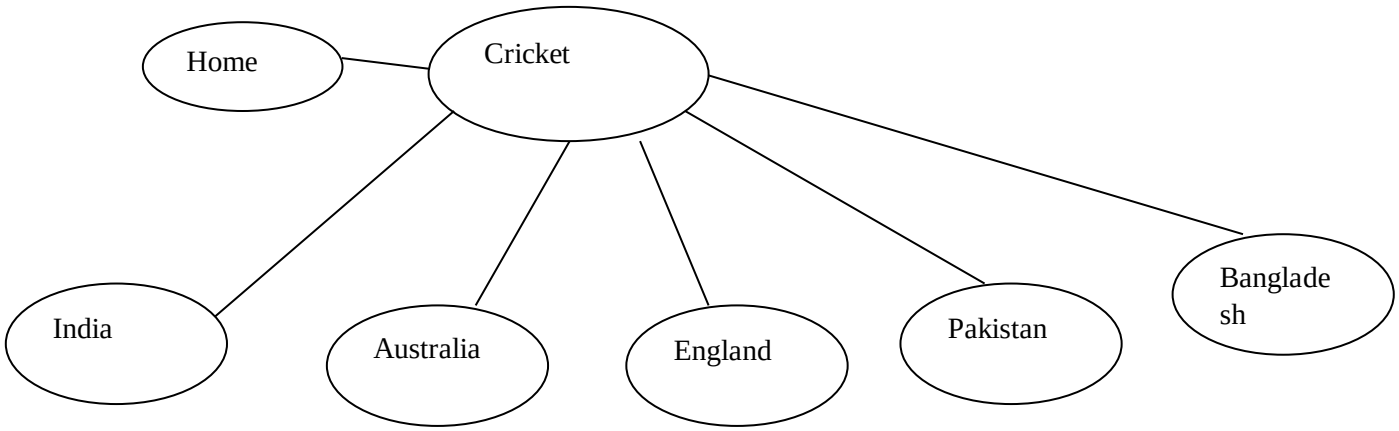

Fig 1: The file structure needed for Coursework 2 (Part 1).

Command:

/home/bibhu> mkdir -p Cricket/{India,Australia,England,Pakistan,Bangladesh}

Result:

/home/bibhu> tree

.
├── 18029955cw2part1
├── Cricket
│ ├── Australia

```
│   ├── Bangladesh
│   ├── England
│   ├── India
│   └── Pakistan
```

Explanation:

mkdir is used to create the directory Cricket and –p is used to create this directory as parent and the others remaining as its child directories. The tree command is used to display all the existing directories.

2. Removing Existing Files and directories (8%)

Task 2: Change to the **India** directory typing a relative pathname

Show that you are in this directory. **– 2 mark.**

Create two files in the **India** directory using any UNIX utility **–2 mark.**

Command:

/home/bibhu> cd Cricket/India

/home/bibhu/Cricket/India> touch file1 file2

Result:

/home/bibhu/Cricket/India> pwd

/home/bibhu/Cricket/India> ls

file1 file2

Explanation:

cd Cricket/India takes to the Cricket directory and then into India directory. Whereas pwd command is used to display current working directory and as we are in the India directory touch command is used to create two files file1 and file2.

Task 3: Change to the **Cricket** directory.

Remove both files of the **India** directory and then the **India** directory using the corresponding command(s) with the Interactive Mode (-i) option for the rm command respectively **– 2 mark.**

Show absence of these files and the directory – **2 mark**

Command:

/home/bibhu/Cricket> rm -i India/file1

rm: remove regular empty file 'India/file1'? y

/home/bibhu/Cricket> rm -i India/file2

rm: remove regular empty file 'India/file2'? y

/home/bibhu/Cricket> rmdir India

Result:

/home/bibhu/Cricket> ls -R

.:

Australia Bangladesh England Pakistan

./Australia:

./Bangladesh:

./England:

./Pakistan:

/home/bibhu/Cricket> tree

.

├── Australia

├── Bangladesh

├── England

└── Pakistan

4 directories, 0 files

Explanation:

The command rm –i is used to remove the files inside the India directory and then the command rmdir is used to remove the India directory. Then ls –R is used to show that the India directory with the files inside it has been removed.

3. Usage of the echo command (6%)

You know that the echo command can be used to print the argument of the command.

Show that you can do it.

Task 4: Print the following strings each in one echo command **– 2 mark:**

- Cricket is a bat and ball game played between two teams.
- 14 < (2+2)

Now you are still in the **Cricket** directory. Give the **pwd** command. Change to the **Australia** directory typing a relative pathname. Show that you are in this directory.

Command:

/home/bibhu/Cricket> echo -e "Cricket is a bat and ball game played between two teams.\n14 < (2+2)"

/home/bibhu/Cricket> pwd

/home/bibhu/Cricket

/home/bibhu/Cricket> cd Australia

/home/bibhu/Cricket/Australia> pwd

Result:

Cricket is a bat and ball game played between two teams.

14 < (2+2)

/home/bibhu/Cricket/Australia

Explanation:

The command echo is used to print the content we give inside the inverted comma and \n is used to break the line which results in the content to be displayed in another line. The command pwd is used to print the current working directory and the command cd Australia is used to go to the Australia directory.

Task 5: Give the group of the following commands:

pwd; cd; pwd

Give a short explanation of the group **– 2 marks.**

Command:

/home/bibhu/Cricket/Australia> pwd; cd; pwd

/home/bibhu> echo -e "The first command shows the present working directory then it sends back to the home directory where now again the present working directory is shown."

Result:

/home/bibhu/Cricket/Australia

/home/bibhu

The first command shows the present working directory then it sends back to the home directory where now again the present working directory is shown.

Explanation:

The command pwd shows the present working directory then cd sends back to the home directory where now again the present working directory is shown by the pwd command.

Task 6: Change to the **Australia** directory again typing a relative pathname. Give the group of the following commands:

pwd; cd ..; pwd; cd ..; pwd

Give a short explanation of the group **– 2 marks.**

Command:

/home/bibhu> cd Cricket/Australia

/home/bibhu/Cricket/Asutralia> pwd; cd ..; pwd; cd ..; pwd

/home/bibhu> echo -e "Present working directory is shown then after this it goes back one directory and again shows the present working directory then again goes back one directory and again shows the present working directory."

Result:

/home/bibhu/Cricket/Australia
/home/bibhu/Cricket
/home/bibhu

Present working directory is shown then after this it goes back one directory and again shows the present working directory then again goes back one directory and again shows the present working directory.

Explanation:

The command pwd shows the present working directory then cd .. sends back one step back to the Cricket directory where now again the present working directory is shown by the pwd command and again cd .. sends us one step back to home directory where again the current working directory is shown by the pwd command.

4. Usage of the ls command (6 %)

Give the following commands and then give a short explanation for each ls command:

Task 7:

- cd; pwd
- ls
- ls – a
- ls –al

– 2 marks for each explanation

Command:

/home/bibhu> cd; pwd

/home/bibhu> echo -e "This command takes us to the back to the home directory and then shows the present working directory."

/home/bibhu> ls

/home/bibhu> echo -e "This command lists all the files and folders."

/home/bibhu> ls –a

/home/bibhu> echo -e "This command lists all hidden and non-hidden files and folders."

/home/bibhu> ls –al

/home/bibhu> echo -e "This command lists all hidden and non-hidden files and folders with all its detail."

Result:

/home/bibhu

This command takes us to the back to the home directory and then shows the present working directory.

18029955cw2part1 Cricket elseif iff testX W9

This command lists all the files and folders.

. .. 18029955cw2part1 .bash_history .bash_logout .bashrc Cricket elseif iff .local .profile testX W9

This command lists all hidden and non-hidden files and folders.

total 41
drwxr-xr-x 1 bibhu bibhu 512 Mar 5 20:50 .
drwxr-xr-x 1 root root 512 Dec 23 14:30 ..
-rw-rw-rw- 1 bibhu bibhu 16896 Mar 5 21:08 18029955cw2part1
-rw------- 1 bibhu bibhu 581 Mar 5 13:22 .bash_history
-rw-r--r-- 1 bibhu bibhu 220 Dec 23 14:30 .bash_logout
-rw-r--r-- 1 bibhu bibhu 3526 Dec 23 14:30 .bashrc
drwxrwxrwx 1 bibhu bibhu 512 Mar 5 20:54 Cricket
-rw-rw-rw- 1 bibhu bibhu 209 Feb 26 08:54 elseif
-rw-rw-rw- 1 bibhu bibhu 176 Feb 26 08:43 iff
drwxrwxrwx 1 bibhu bibhu 512 Feb 26 08:37 .local
-rw-r--r-- 1 bibhu bibhu 807 Dec 23 14:30 .profile
-rw-rw-rw- 1 bibhu bibhu 10 Feb 28 12:27 testX
drwxrwxrwx 1 bibhu bibhu 512 Dec 23 14:33 W9

This command lists all hidden and non-hidden files and folders with all its detail.

Task 8:

- cd; pwd; cd Cricket; pwd
- ls –R

} **4 marks for an explanation**

Command:

/home/bibhu> cd; pwd; cd Cricket; pwd

/home/bibhu/Cricket> echo -e "First it goes to the home directory and displays the present working directory then it goes to the Cricket directory and shows the current working directory."

/home/bibhu/Cricket> ls –R

/home/bibhu/Cricket> echo -e "This command displays the folders and files alongside with all the subfolders with its content inside the Cricket directory."

Result:

/home/bibhu

/home/bibhu/Cricket

First it goes to the home directory and displays the present working directory then it goes to the Cricket directory and shows the current working directory.

.:

Australia Bangladesh England Pakistan

./Australia:

./Bangladesh:

./England:

./Pakistan:

This command displays the folders and files alongside with all the subfolders with its content inside the Cricket directory.

Explanation:

The command ls –R is used to list all the folders and files alongside with all the subfolders with its content inside of the Cricket directory as we are working in the Cricket directory.

5. Usage of the cat command (12%)

Change to the **Australia** directory.

Task 9: Create three following files using the cat utility: **– 2 marks.**

File name	testX	testY	testZ
Contents of the files	aaabb Aaaaa AAAAA bbbcc Bbbbb BBBBB ff–ff Ccccc CCCCC cccdd Ddddd DDDDD	aaabb Aaaaa AAAAA bbbcc Bbbbb BBBBB ff–ff Ccccc CCCCC cccdd Ddddd DDDDD	aaabb Aaaaa AAAAA bbbcc Bbbbb BBBBB ff–ff Ccccc CCCCC cccdd Ddddd DDDDD

Command:

/home/bibhu/Cricket> cd Australia

/home/bibhu/Cricket/Australia> cat > testX

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

^X^C

/home/bibhu/Cricket/Australia> cat testX > testY

/home/bibhu/Cricket/Australia> cat testX > testZ

Explanation:

The command cat > testX is used to create and write contents inside the file testX and the command cat testX > testY is used to create a new file testY and copy the contents of testX to testY and as for the same for the command testX > testZ.

Task 10: Display each of these files using the cat utility. **– 2 marks.**

Command:

/home/bibhu/Cricket/Australia> cat testX

/home/bibhu/Cricket/Australia> cat testY

/home/bibhu/Cricket/Australia> cat testZ

Result:

aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD

aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD

aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

Explanation:

The command cat testX is used to only read and display the contents inside of testX and same for testY and testZ.

Task 11: Copy these files to the **Bangladesh** directory typing a relative pathname.

– 2 marks.

Command:

/home/bibhu/Cricket/Australia> cp testX ../Bangladesh/

/home/bibhu/Cricket/Australia> cp testY ../Bangladesh/

/home/bibhu/Cricket/Australia> cp testZ ../Bangladesh/

Result:

/home/bibhu/Cricket/Bangladesh> tree

.

├── testX

├── testY

└── testZ

Explanation:

The command cp is used to copy files and the command cp testX ../Bangladesh/ is used so that the file testX which is in Australia directory is copied to Bangladesh directory.

Task 12: Concatenate the files using the following commands (put 2–3 lines with reasonable contents during the execution of the third command):

- **cat testX testY testZ**
- **cat testX testY testZ > testResult**
- **cat testX – testY >> testResult** **– 4 marks.**

Display testResult using cat. Consider if it is correct… **– 2 marks.**

Command:

/home/bibhu/Cricket/Bangladesh> cd ../Australia

/home/bibhu/Cricket/Australia> cat testX testY testZ

Result:

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

Explanation:

The command cat testX testY and testZ displays all its contents from testX to testZ.

Command:

/home/bibhu/Cricket/Australia> cat testX testY testZ > testResult

Result:

/home/bibhu/Cricket/Australia> cat testResult

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

Explanation:

The command creates a new file testResult and the content of testX, testY and testZ are all stored as a whole inside of it.

Command:

/home/bibhu/Cricket/Australia> cat testX - testY >> testResult

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^C

Result:

/home/bibhu/Cricket/Australia> cat testResult

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd

DDDDD

aaabb Aaaaa

AAAAA

bbbcc Bbbbb

BBBBB

ff-ff Ccccc

CCCCC

cccdd Ddddd
DDDDD
aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD
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NP01CP4A180301

Explanation:

The command cat testX – testY displays all the contents of testX and only displays the matching contents of testY to testX whereas the command >> is used to add content to already existing content of testResult.

Task 13: Give the following command:

cat test[XYZ]

Give a short explanation of the result.

– **2 marks.**

Command:

cat test[XYZ]

/home/bibhu/Cricket/Australia> echo -e "Contents inside the files testX, testY and testZ are displayed one."

Result:

aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD
aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD
aaabb Aaaaa
AAAAA
bbbcc Bbbbb

BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD

Contents inside the files testX, testY and testZ are displayed one.

Explanation:

The command cat test[XYZ] same as the command cat testX testY and testZ but the only difference is convenience of how we write it.

6. Usage of the chmod command (12%)

Task 14: Do the following sequence of actions. Remember that any action costs 7/9 mark…

- Display access permissions for files in **Australia** **– 6 marks.**

Command:

/home/bibhu/Cricket/Australia> ls –l

total 0

-rw-rw-rw- 1 bibhu bibhu 304 Mar 6 09:18 testResult

-rw-rw-rw- 1 bibhu bibhu 72 Mar 6 09:13 testX

-rw-rw-rw- 1 bibhu bibhu 72 Mar 6 09:14 testY

-rw-rw-rw- 1 bibhu bibhu 72 Mar 6 09:14 testZ

- Remove all access permissions for the testX file.

Command:

/home/bibhu/Cricket/Australia> chmod 000 testX

- Display access permissions for the testX file.

Command:

/home/bibhu/Cricket/Australia> ls -l testX

---------- 1 bibhu bibhu 72 Mar 6 09:13 testX

- Try to read this file using any utility.

Command:

/home/bibhu/Cricket/Australia> cat testX
cat: testX: Permission denied

- Try to write into this file using any utility.

Command:

```
/home/bibhu/Cricket/Australia> cat >> testX
bash: testX: Permission denied
```

- Add read and write access permissions for yourself for the testX file.

Command:

```
/home/bibhu/Cricket/Australia> chmod 600 testX
```

- Display access permissions for the testX file.

Command:

```
/home/bibhu/Cricket/Australia> ls -l testX
-rw------- 1 bibhu bibhu 72 Mar  6 09:13 testX
```

- Try to read this file using any utility.

Command:

```
/home/bibhu/Cricket/Australia> cat testX
aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD
```

- Try to write into this file using any utility.

Command:

```
/home/bibhu/Cricket/Australia> cat >> testX
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^C
```

Task 15: Do the following sequence of actions. Remember that any action costs 9/12 mark…

- Change to the **Cricket** directory. **– 6 marks.**

Command:

/home/bibhu/Cricket/Australia> cd ..

- Display access permissions for **Australia**.

Command:

/home/bibhu/Cricket> ls -l Australia
total 0
-rw-rw-rw- 1 bibhu bibhu 304 Mar 6 09:18 testResult
-rw------- 1 bibhu bibhu 88 Mar 6 09:26 testX
-rw-rw-rw- 1 bibhu bibhu 72 Mar 6 09:14 testY
-rw-rw-rw- 1 bibhu bibhu 72 Mar 6 09:14 testZ

- Remove all access permissions for the **Australia** directory.

Command:

/home/bibhu/Cricket> chmod 000 Australia

- Display access permissions for **Australia**.

Command:

/home/bibhu/Cricket> ls -l
total 0
d--------- 1 bibhu bibhu 512 Mar 6 09:18 Australia
drwxrwxrwx 1 bibhu bibhu 512 Mar 6 09:15 Bangladesh
drwxrwxrwx 1 bibhu bibhu 512 Mar 5 20:50 England
drwxrwxrwx 1 bibhu bibhu 512 Mar 5 20:50 Pakistan

- Try to read a file from **Australia** using any utility.

Command:

/home/bibhu/Cricket> cat Australia/testX
cat: Australia/testX: Permission denied

- Try to put a file into **Australia** using any utility.

Command:

```
/home/bibhu/Cricket> touch Australia/file10
touch: cannot touch 'Australia/file10': Permission denied
```

- Try to search in **Australia** using any command (e.g., the ls command).

Command:

```
/home/bibhu/Cricket> ls Australia
ls: cannot open directory 'Australia': Permission denied
```

- Add read, write, and execute access permissions for yourself for the **Australia** directory.

Command:

```
/home/bibhu/Cricket> chmod 700 Australia
```

- Display access permissions for **Australia**.

Command:

```
/home/bibhu/Cricket> ls -l
total 0
drwx------ 1 bibhu bibhu 512 Mar  6 09:18 Australia
drwxrwxrwx 1 bibhu bibhu 512 Mar  6 09:15 Bangladesh
drwxrwxrwx 1 bibhu bibhu 512 Mar  5 20:50 England
drwxrwxrwx 1 bibhu bibhu 512 Mar  5 20:50 Pakistan
```

- Try to read a file from **Australia** using any utility.

Command:

```
/home/bibhu/Cricket> cat Australia/testX
aaabb Aaaaa
AAAAA
bbbcc Bbbbb
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
```

DDDDD
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- Try to put a file into **Australia** using any utility.

Command:

/home/bibhu/Cricket> touch Australia/file10

- Try to search in **Australia** using any command (e.g., the ls command).

Command:

/home/bibhu/Cricket> ls Australia

file10 testResult testX testY testZ

7. Usage of the grep command (10%)

Change to the **Bangladesh** directory.

Task 16: Give the following commands and give the explanation of each of the command.

No marks without the comparison or an explanation! **– 10 marks.**

- **grep bb testX**

Command:

/home/bibhu/Cricket> cd Bangladesh

/home/bibhu/Cricket/Bangladesh> grep bb testX

/home/bibhu/Cricket/Bangladesh> echo -e "Contents with the words bb in the file testX are displayed."

Result:

aaabb Aaaaa

bbbcc Bbbbb

Contents with the words bb in the file testX are displayed.

Explanation:

The command grep is used to search for a pattern in each file and the command grep bb testX displays the content containing the word ‘bb’ in the file testX.

- **grep -v bb testX**

Command:

/home/bibhu/Cricket/Bangladesh> grep -v bb testX

/home/bibhu/Cricket/Bangladesh> echo -e "Contents without the words bb in the file testX are displayed. It is also case sensitive."

Result:

AAAAA
BBBBB
ff-ff Ccccc
CCCCC
cccdd Ddddd
DDDDD

Contents without the words bb in the file testX are displayed. It is also case sensitive.

Explanation:

The command grep –v bb testX displays all the content besides the content which contain the word ‘bb’ in the file testX.

- **grep -n bb testX**

Command:

/home/bibhu/Cricket/Bangladesh> grep -n bb testX

/home/bibhu/Cricket/Bangladesh> echo -e "Contents with the words bb in the file testX are displayed alongside with the line number that it is located."

Result:

1:aaabb Aaaaa
3:bbbcc Bbbbb

Contents with the words bb in the file testX are displayed alongside with the line number that it is located.

Explanation:

The command grep –n bb testX displays all the content which contain the word ‘bb’ in the file testX with the line number in which it is located.

- **grep -l bb ***

Command:

/home/bibhu/Cricket/Bangladesh> grep -l bb *

/home/bibhu/Cricket/Bangladesh> echo -e "All files that has bb in inside is displayed."

Result:

testX

testY

testZ

All files that has bb in inside is displayed.

Explanation:

The command grep –l bb * displays all the files inside the Bangladesh directory that contain the word bb in it.

- **grep -i bb ***

Command:

/home/bibhu/Cricket/Bangladesh> grep -i bb *

/home/bibhu/Cricket/Bangladesh> echo -e "File names and the contents with bb in them are displayed."

Result:

testX:aaabb Aaaaa
testX:bbbcc Bbbbb
testX:BBBBB
testY:aaabb Aaaaa
testY:bbbcc Bbbbb
testY:BBBBB
testZ:aaabb Aaaaa
testZ:bbbcc Bbbbb
testZ:BBBBB

File names and the contents with bb in them are displayed.

Explanation:

The command grep –i bb * displays all the files names and the contents inside the Bangladesh directory that contain the word bb in it.

- **grep -i BB ***

Command:

/home/bibhu/Cricket/Bangladesh> grep -i BB *

/home/bibhu/Cricket/Bangladesh> echo -e "File names and the contents with BB in them are displayed regardless of thier case."

Result:

testX:aaabb Aaaaa
testX:bbbcc Bbbbb
testX:BBBBB
testY:aaabb Aaaaa
testY:bbbcc Bbbbb
testY:BBBBB
testZ:aaabb Aaaaa
testZ:bbbcc Bbbbb
testZ:BBBBB

File names and the contents with BB in them are displayed regardless of thier case.

Explanation:

The command grep –i BB * displays all the files names and the contents inside the Bangladesh directory that contain the word BB in it regardless of their case.

- **grep -c bb ***

Command:

/home/bibhu/Cricket/Bangladesh> grep -c bb *

/home/bibhu/Cricket/Bangladesh> echo -e "File name with number of lines that contains bb are displayed."

Result:

testX:2

testY:2

testZ:2

File name with number of lines that contains bb are displayed.

Explanation:

The command grep –c bb * displays all the files names and the number of contents inside the Bangladesh directory that contain the word bb in it regardless of their case.

- **grep '^A' ***

Command:

/home/bibhu/Cricket/Bangladesh> grep '^A' *

/home/bibhu/Cricket/Bangladesh> echo -e "File name with the content staring with A is displayed."

Result:

testX:AAAAA
testY:AAAAA
testZ:AAAAA

File name with the content staring with A is displayed.

Explanation:

The command grep ‘^A’ * displays all the files names and only the content ‘A’ inside the Bangladesh directory which is case sensitive.

- **grep -n '^' testX**

Command:

/home/bibhu/Cricket/Bangladesh> grep -n '^' testX

/home/bibhu/Cricket/Bangladesh> echo -e "All the contents inside the file testX are displayed with thier line number."

Result:

1:aaabb Aaaaa
2:AAAAA
3:bbbcc Bbbbb
4:BBBBB
5:ff-ff Ccccc
6:CCCCC
7:cccdd Ddddd
8:DDDDD

All the contents inside the file testX are displayed with thier line number.

Explanation:

The command grep –n '^' testX displays all the content inside the file testX with their line number.

8. Aliasing (19%)

Task 17: Define two aliases for the **ls** command: **lsaR** for the **ls -aR** command and **lsa** for **ls -a** command.

- Show that your system stores them (giving the correspondent command) **– 2 marks.**

Command:

/home/bibhu> alias lsaR='ls -aR'

/home/bibhu> alias lsa='ls -a'

/home/bibhu> alias

Result:

alias ls='ls --color=auto'

alias lsa='ls -a'

alias lsaR='ls -aR'

Explanation:

Alias is a shortcut for referencing a command in linux. So, the ls –aR command is defined a shortcut command of lsaR and ls –a command is defined a shortcut command of lsa.

- Use them in your home directory **– 2 marks**

Command:

/home/bibhu> lsaR

Result:

```
.:
. 18029955cw2part1 .bash_logout count elseif iff .profile testfile testY usinf
.. .bash_history .bashrc Cricket flower .local TEST testX until1 W9
./Cricket:
. .. Australia Bangladesh England Pakistan
./Cricket/Australia:
. .. file10 testResult testX testY testZ
./Cricket/Bangladesh:
. .. testX testY testZ
./Cricket/England:
. ..
./Cricket/Pakistan:
. ..
./.local:
. .. share
./.local/share:
. .. nano
./.local/share/nano:
. ..
./TEST:
. .. file1 file2
./W9:
. .. w9-1 w9-2
./W9/w9-1:
. .. 1level3 2level3
```

./W9/w9-1/1level3:

. ..

./W9/w9-1/2level3:

. ..

./W9/w9-2:

. .. 3level3 4level3

./W9/w9-2/3level3:

. ..

./W9/w9-2/4level3:

. ..

Explanation:

The command grep –n '^' testX displays all the content inside the file testX with their line number.

Command:

/home/bibhu> lsa

Result:

. 18029955cw2part1 .bash_logout count elseif iff .profile testfile testY usinf

.. .bash_history .bashrc Cricket flower .local TEST testX until1 W9

Explanation:

The command grep –n '^' testX displays all the content inside the file testX with their line number.

Task 18: Remove these aliases.
Show that your system does not store these aliases. **– 2 marks**

Command:

/home/bibhu> unalias lsaR

/home/bibhu> unalias lsa

/home/bibhu> alias

Result:

alias ls='ls --color=auto'

Explanation:

The command unalias is used to delete defined alias.

Task 19: Define the aliases again preserving them for the next session. Stop the session exiting from the UNIX operating system (log out) and log in again.
Show that the system keeps these aliases and they work – **2 marks**

Command:

/home/bibhu> nano .bashrc

Result:

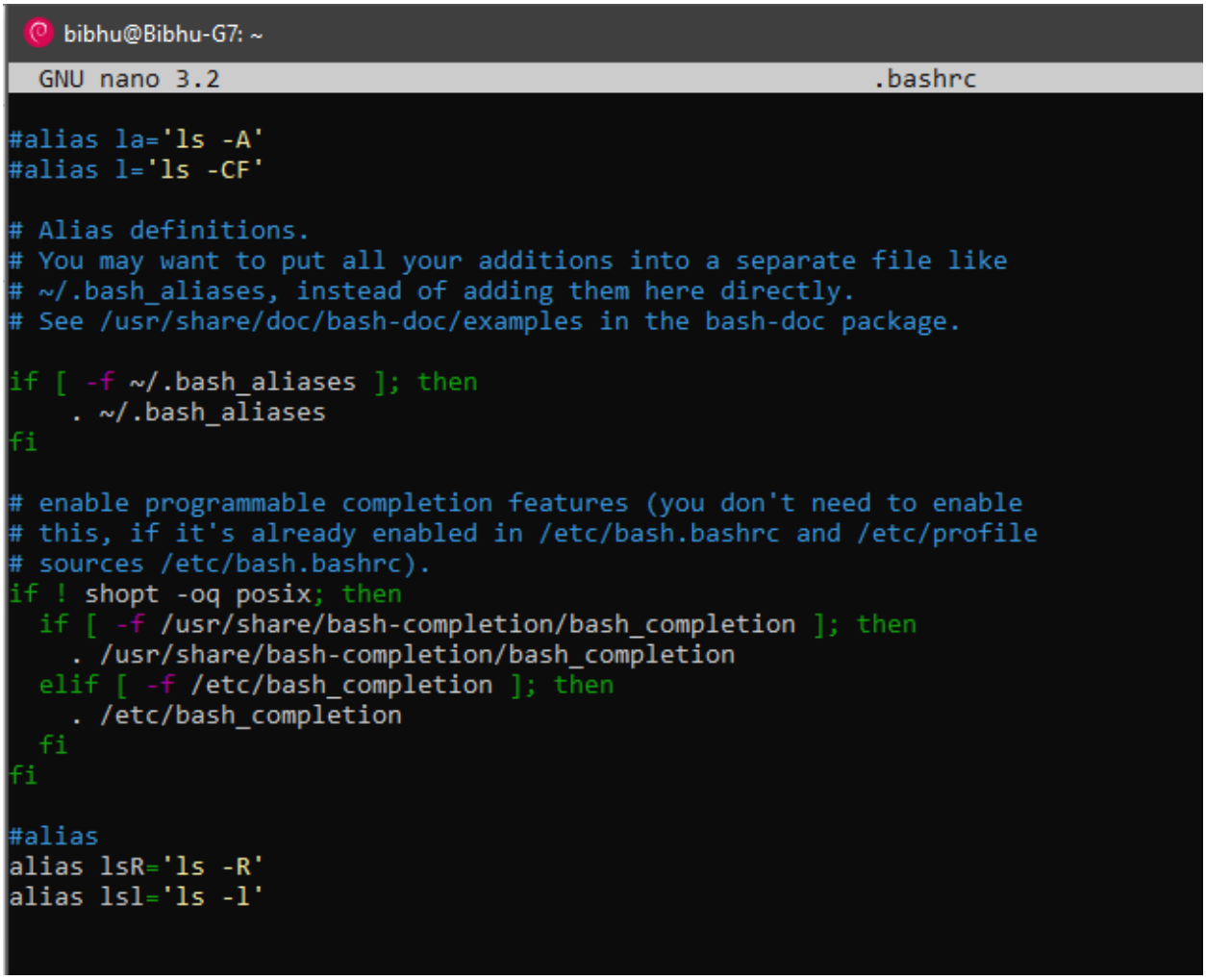

Figure 1: Task 19

Task 20: Define the **noAllf** alias for a group of commands counting and displaying the number of all files and directories in any working directory (including ones with invisible file and directory names) and put the alias in your environmental file.

– **3 marks**

Command:

/home/bibhu> nano .bashrc

Result:

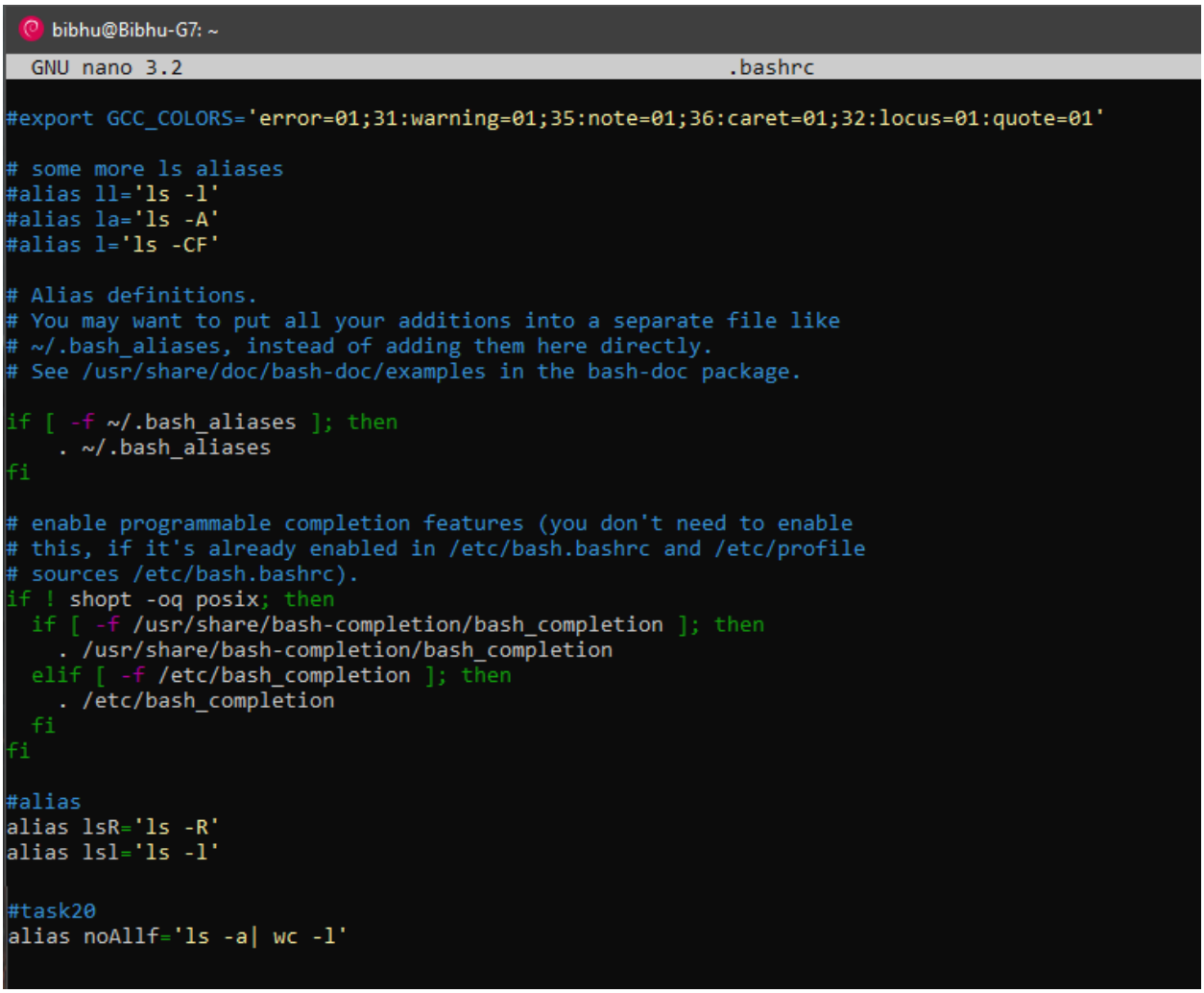

Figure 2: Task 20

Task 21: Define the **noAsubsir** alias for a group of commands counting recursively and displaying the number of all sub-directories encountered for any working directory (including ones with invisible file and directory names) and put the alias in your environmental file.

– **3marks**

Command:

/home/bibhu> nano .bashrc

Result:

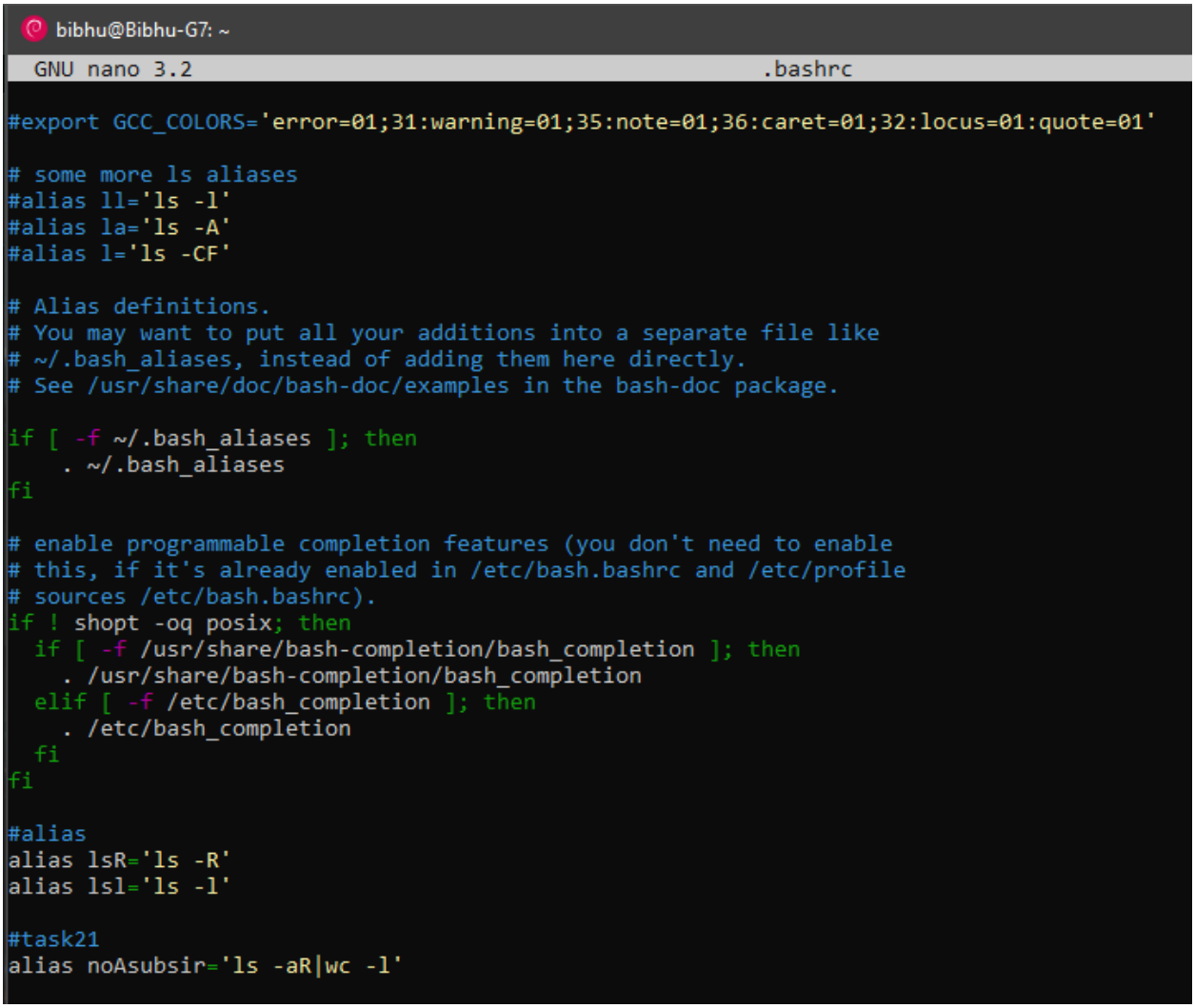

Figure 3: Task 21

Task 22: Define the **noAcs** alias for a group of commands counting and displaying the number of all files and directories in your account's space with the names starting with g, t, and w and put the alias in your environmental file. Display all your aliases.

– **3 marks**

Command:

/home/bibhu> nano .bashrc

Result:

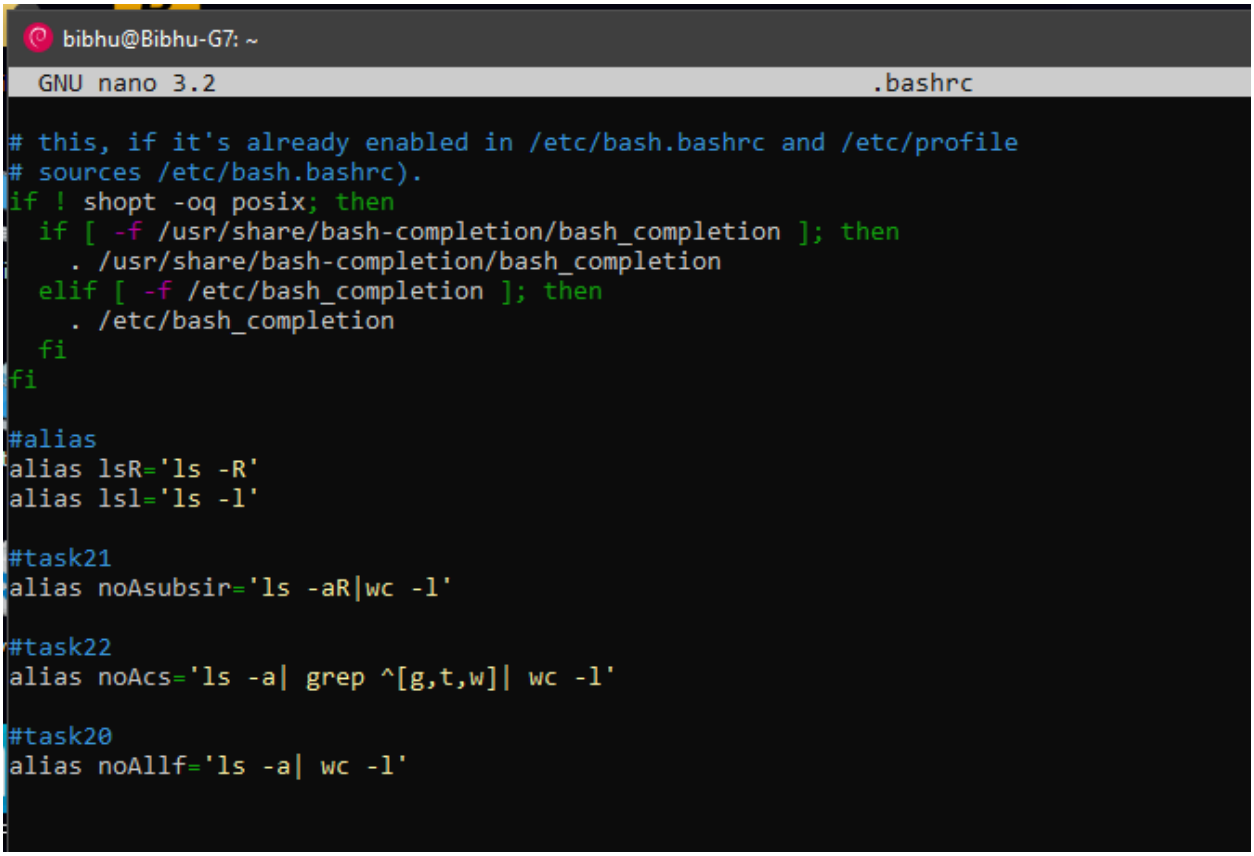

Figure 4: Task 22

9. Usage of your own commands (3%)

Task 23: – 1 mark
noAllf

Command:

/home/bibhu> noAllf

Result:

24

Explanation:

The command noAllf counts and displays all the number of files and directories in any working directory.

Task 24: **– 1 mark**

noAsubsir

Command:

/home/bibhu> noAsubsir

Result:

78

Explanation:

The command noAsubsir counts recursively and displays all the number of all sub-directories for any working directory. In this case 78 is displayed for the home directory in my system.

Task 25: **– 1 mark**

noAcs

Command:

/home/bibhu> noAcs

Result:

3

Explanation:

The command noAllf counts and displays all the number of files and directories in our account's space with the names starting with g, t and w.

10. Command history (6%)

Task 26: List your last commands executed giving the any history command. –**2 marks**

Command:

/home/bibhu> fc -l

Result:

410 cd
411 lsa
412 lsaR
413 unalias lsa
414 unalias lsaR
415 alias
416 nano .bashrc
417 exit
418 lsa
419 lsaR
420 nano .bashrc
421 exit
422 PS1='$PWD> '
423 noAllf
424 noAsubsir
425 noAcs

Explanation:

The command displays recent commands entered with the code line number.

Task 27: Re execute the command given eight commands ago. – **2 marks**

Command:

/home/bibhu> ! -8

Result:

lsaR

.:

. .bash_history break Cricket function1 nested_function TEST testY

.. .bash_logout continue elseif iff new_function testfile until1

18029955cw2part1 .bashrc count flower .local .profile testX usinf

./Cricket:

. .. Australia Bangladesh England Pakistan

./Cricket/Australia:

. .. file10 testResult testX testY testZ

./Cricket/Bangladesh:

. .. bashrc testX testY testZ

./Cricket/England:

. ..

./Cricket/Pakistan:

. ..

./.local:

. .. share

./.local/share:

```
. .. nano

./.local/share/nano:
. ..

./TEST:
. .. file1  file2
```

Explanation:

The command re executes the command eight command ago which for my system is lsaR.

Task 28: Re execute the last command which name begins with ‘c’. – **2 marks**

Command:

/home/bibhu> !c

/home/bibhu> exit

Result:

cd

Explanation:

The command re executes the last command that begins with ‘c’ and for my system the command is cd.

Script done on 2020-03-15 18:32:35+05:45

CONCLUSION

In conclusion, the task given were not difficult to solve and was quite helpful for learning UNIX commands. We also got used to these commands and got more knowledge about how these commands work. The tasks were completed without much of a problem and are recorded in the script file named 18029955cw2part1. Rubbish contents were also cleared out before finalizing the report.