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

Table of Contents

Introduction	1
Transcript	2
Creating a new directory	2
#Task 1	2
Removing Existing Files and directories	3
#Task 2	3
Description:	3
# Task 3	4
Usage of the echo command	4
#Task 4	4
#Task 5	5
#Task 6	6
Usage of the ls command	6
#Task 7	7
#Task 8	8
Usage of the cat command	10
#Task 9	10
#Task 10	11
#Task 11	12
#Task 12	13
#Task 13	14
Usage of the chmod command	15
#Task 14	15
#Task 15	17
Usage of the grep command	20
#Task 16	20
Aliasing	23
#Task 17	23
Task 18	25
Task 19	26
Task 20	27
Task 21	28

Task 22	28
Usage of your own commands	29
Task 23	29
Task 24	29
Task 25	29
Command history	30
Task 26	30
Task 27	30
Task 28	31
CONCLUSION	32
REFERENCES	33

Introduction

Linux is an open source and community-developed Unix-like operating system (OS) for computers, servers, mainframes, mobile devices, and embedded devices. It is one of the most popular operating systems, having support for nearly every major computer platform, including x86, ARM, and SPARC. A variety of distributions are available depending on the intended use of Linux. To perform the tasks, POP-OS was picked from among various available linux distributions.

Unix is an operating system aimed towards programmers. Unix source code isn't provided for free. It isn't very portable either. On both desktops and servers, Unix is the operating system of choice. Unix and Linux are almost identical in many ways, and Linux was created with the intention of being indistinguishable from Unix. Both have similar user interfaces, programming tools, filesystem layouts, and other core components. Not all Unices, however, are free and open source.

The major goals of this assignment is to introduce students to certain important UNIX interface specifics through practicing UNIX commands and to conduct a basic file-based action by sequentially inserting instructions.

Transcript

```
1. Script started on 2022-04-18 17:40:31+05:45 [TERM="xterm-256color" TTY="/dev/pts/0"
   COLUMNS="74" LINES="24"]
2.
```

Creating a new directory

#Task 1

Command :

```
/home/rhythmsapkota>mkdir -p IPL/{ "Mumbai Indians",KKR,Punjab,"Rajasthan Royals",RCB }
```

Response:

Description:

Here, the mkdir command allows you to create a new, empty directory named IPL with the name defined by its path and mkdir -p creates a folder tree containing the different folders inside IPL. In simple terms, The -p option is used to make parent directories while using Mkdir to create directories.

Command:

```
/home/rhythmsapkota>tree IPL
```

Response:

```
IPL
├── KKR
├── Mumbai Indians
├── Punjab
├── Rajasthan Royals
└── RCB

5 directories, 0 files
```

Descriptrion: When the tree command is used, the directory name, as well as the names of any subdirectories inside it, is shown.

Removing Existing Files and directories

#Task 2

Command :

```
/home/rhythmsapkota>cd IPL/KKR  
/home/rhythmsapkota/IPL/KKR>pwd
```

Response:

```
/home/rhythmsapkota/IPL/KKR
```

Description:

The command 'cd IPL/KKR' changed the directory from `/home/rhythmsapkota>` TO `/home/rhythmsapkota/IPL/KKR>` and 'pwd' prints the current directory name, as well as the entire path, starting from root (/).

Command:

```
/home/rhythmsapkota/IPL/KKR>touch file1 file2  
/home/rhythmsapkota/IPL/KKR>cd ..  
/home/rhythmsapkota/IPL>tree
```

Response:

```
.  
├── KKR  
│   ├── file1  
│   └── file2  
├── Mumbai Indians  
├── Punjab  
├── Rajasthan Royals  
└── RCB  
  
5 directories, 2 files
```

Description:

Here, the touch command is used to create files named File1 and File2 and shown in a tree by using tree command.

Task 3

Command :

```
/home/rhythmsapkota/IPL>rm -i KKR/{file1,file2}
```

Response:

```
rm: remove regular empty file 'KKR/file1'? Y
rm: remove regular empty file 'KKR/file2'? Y
```

Description:

Here, the 'rm -i' command removed previously created files from the mentioned directory.

Command :

```
/home/rhythmsapkota/IPL>tree
```

Response:

```
.
├── KKR
├── Mumbai Indians
├── Punjab
├── Rajasthan Royals
└── RCB

5 directories, 0 files
```

Description:

Here, tree command is used to list all the directories and files where the previously removed files are not shown.

Usage of the echo command

#Task 4

Command :

```
/home/rhythmsapkota/IPL>echo "Hello! I am big fan of IPL."
```

Response:

```
Hello! I am big fan of IPL.
```

Description:

Here, the echo command is used to show a line of text/string that has been passed as an argument. It showed the line that was to be printed.

Command:

```
/home/rhythmsapkota/IPL>echo "14<(2+2)"
```

Response:

```
14<(2+2)
```

Description:

Here, the echo command is used to show a line of text/string that has been supplied as an argument. It showed the line that was to be printed.

#Task 5**Command :**

```
/home/rhythmsapkota/IPL>pwd
```

Response:

```
/home/rhythmsapkota/IPL
```

Description:

'pwd' prints the current directory name, as well as the entire path, starting from root (/).

Command:

```
/home/rhythmsapkota/IPL>cd KKR  
/home/rhythmsapkota/IPL/KKR>pwd; cd; pwd
```

Response:

```
/home/rhythmsapkota/IPL/KKR  
/home/rhythmsapkota
```


Description:

At first the directory was changed to KKR using cd command only.

The command cd (change directory) switches the current working directory to the one that you provide. The system defaults to the home directory if no path is supplied after the cd command.

Here, 'pwd' and 'cd' are separated by ';' which allows the command to execute sequentially where the shell waits in turn to terminate each command.

#Task 6**Command :**

```
/home/rhythmsapkota>cd IPL/KKR  
/home/rhythmsapkota/IPL/KKR>pwd; cd ../; pwd; cd ../; pwd
```

Response:

```
/home/rhythmsapkota/IPL/KKR  
/home/rhythmsapkota/IPL  
/home/rhythmsapkota
```

Description:

The command cd with the path to another location is used to go to the mentioned path.

The cd with double dots (cd ..) is used to go backtrack and pwd is used to show the current directory name.

Usage of the ls command

#Task 7

Command :

```
/home/rhythmsapkota>cd IPL  
/home/rhythmsapkota/IPL>cd; pwd
```

Response:

```
/home/rhythmsapkota
```

Description:

The directory is changed from home to IPL using cd and path name.

The system defaults to the home directory if no path is supplied after the cd command.

Pwd is used to show the current directory.

Command:

```
/home/rhythmsapkota>ls
```

Response:

```
20049417Cw2P1  Documents  IPL      Pictures  Templates  
Desktop        Downloads  Music    Public    Videos
```

Description:

ls command is used to list all the files and directories in a linux OS terminal.

Command :

```
/home/rhythmsapkota>ls -a
```

Response:

```
.          .bashrc      Documents  Music          Templates  
..         .bashrc.save Downloads  Pictures        Videos  
20049417Cw2P1 .cache      .gnupg     .profile  
.bash_history .config     IPL        Public  
.bash_logout Desktop     .local     .sudo_as_admin_successful
```

Description:

ls -a command is used to list all the files and directories including all hidden files in a linux OS terminal.

Command :

```
/home/rhythmsapkota>ls -al
```

Response:

```
total 84
drwxr-xr-x 15 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 .
drwxr-xr-x  3 root          root          4096 Mar 19 00:22 ..
-rw-rw-r--  1 rhythmsapkota rhythmsapkota    0 Mar 21 20:39 20049417Cw2P1
-rw-----  1 rhythmsapkota rhythmsapkota 4471 Mar 21 20:39 .bash_history
-rw-r--r--  1 rhythmsapkota rhythmsapkota  220 Mar 19 00:22 .bash_logout
-rw-r--r--  1 rhythmsapkota rhythmsapkota 3771 Mar 21 20:13 .bashrc
-rw-r--r--  1 rhythmsapkota rhythmsapkota 3772 Mar 21 20:31 .bashrc.save
drwx----- 12 rhythmsapkota rhythmsapkota 4096 Mar 19 03:53 .cache
drwx----- 14 rhythmsapkota rhythmsapkota 4096 Mar 22 06:23 .config
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:13 Desktop
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Documents
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Downloads
drwx-----  3 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 .gnupg
drwxrwxr-x  7 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 IPL
drwxr-xr-x  3 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 .local
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Music
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Pictures
-rw-r--r--  1 rhythmsapkota rhythmsapkota  807 Mar 19 00:22 .profile
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Public
-rw-r--r--  1 rhythmsapkota rhythmsapkota    0 Mar 22 04:52 .sudo_as_admin_successful
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Templates
drwxr-xr-x  2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Videos
```

Description:

ls -al will show all of the files and folders in the current directory, including hidden files and directories, as well as files starting with '.' in their names.

#Task 8

Command :

```
/home/rhythmsapkota>cd; pwd; cd cw2; pwd
```

Response:

```
/home/rhythmsapkota>cd; pwd; cd cw2; pwd
/home/rhythmsapkota
bash: cd: cw2: No such file or directory
/home/rhythmsapkota
```

Description:

The cd command changes the current working directory to the target directory. The current working directory is changed to the home directory if no path is supplied following cd.

The ";" command can be used to execute several instructions in a single line.

cd cw2 is a command that uses a relative path to change the current directory to cw2 since there is no cw2 directory error is shown

Command:

```
/home/rhythmsapkota>ls -R
```

Response:

```
.:
20049417Cw2P1  Documents  IPL      Pictures  Templates
Desktop        Downloads  Music    Public    Videos

./Desktop:

./Documents:

./Downloads:

./IPL:
KKR  'Mumbai Indians'  Punjab  'Rajasthan Royals'  RCB

./IPL/KKR:

'./IPL/Mumbai Indians':
```

```
./IPL/Punjab:

'./IPL/Rajasthan Royals':

./IPL/RCB:

./Music:

./Pictures:

./Public:

./Templates:

./Videos:
```

Description:

The ls-R option or command is used to recursively flag the directory's list of files.

The -R command recursively lists all directories, files, and folders inside them. the choice -R stands for recursive.

Usage of the cat command

#Task 9

Command :

```
/home/rhythmsapkota>cd IPL/RCB
/home/rhythmsapkota/IPL/RCB>cat >testX
aaabb Aaaaa AAAAA
bbbcc Bbbbb BBBBB
ff-ff Ccccc CCCCC
ccdd Dddd DDDDD
/home/rhythmsapkota/IPL/RCB>cat >testY
aaabb Aaaaa AAAAA
bbbcc Bbbbb BBBBB
ff-ff Ccccc CCCCC
ccdd Dddd DDDDD
/home/rhythmsapkota/IPL/RCB>cat >testZ
aaabb Aaaaa AAAAA
```

```
bbbcc Bbbbb BBBBb  
ff-ff Ccccc CCCCC  
ccdd Ddddd DDDDD
```

Response:

Description:

In IPL, the command cd is used to change the directory to RCB. The command cat > testX is used to create a new file named testX and to write the contents of the files. The same applies for files testY and testZ.

#Task 10

Command :

```
/home/rhythmsapkota/IPL/RCB>cat testX
```

Response:

```
aaabb Aaaaa AAAAA  
bbbcc Bbbbb BBBBb  
ff-ff Ccccc CCCCC  
ccdd Ddddd DDDDD
```

Description:

To read the contents of testX in the terminal cat testX is used.

Command :

```
/home/rhythmsapkota/IPL/RCB>cat testY
```

Response:

```
aaabb Aaaaa AAAAA  
bbbcc Bbbbb BBBBb  
ff-ff Ccccc CCCCC
```

```
ccdd Dddd DDDD
```

Description:

To read the contents of testY in the terminal cat testY is used.

Command :

```
/home/rhythmsapkota/IPL/RCB>cat testZ
```

Response:

```
aaabb Aaaaa AAAAA  
bbbcc Bbbbb BBBB  
ff-ff Ccccc CCCCC  
ccdd Dddd DDDD
```

Description:

To read the contents of testZ in the terminal cat testZ is used.

#Task 11

Command :

```
/home/rhythmsapkota/IPL/RCB>cp {testX,testY,testZ} ../"Rajasthan Royals"  
/home/rhythmsapkota/IPL/RCB>cd ..  
/home/rhythmsapkota/IPL>tree
```

Response:

```
.  
├── KKR  
├── Mumbai Indians  
├── Punjab  
├── Rajasthan Royals  
│   ├── testX  
│   ├── testY  
│   └── testZ  
└── RCB  
    └── testX
```

```
├─ testY
└─ testZ
```

5 directories, 6 files

Description:

The files testX, testY, and testZ are copied to the Rajasthan Royals directory using command cp. To return to the previous directory, command Cd.. is used. The tree is used to check if the files were copied successfully.

#Task 12

Command :

```
/home/rhythmsapkota/IPL/RCB>cat testX testY testZ
```

Response:

```
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
```

Description:

Cat testX testY testZ is used to show the contents of all the files specified.

Command:

```
/home/rhythmsapkota/IPL/RCB>cat testX testY testZ>testResult
/home/rhythmsapkota/IPL/RCB>cat testResult
```

Response:

```
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBBB
```



```
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
```

Description:

To duplicate the contents of testX, testY, and testZ into testResult, the command `cat testX testY testZ > testResult` is used. The contents of the Cat testResult are shown.

#Task 13

Command :

```
/home/rhythmsapkota/IPL/RCB>cat test[XYZ]
```

Response:

```
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBB
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
```

Description:

The `cat test[XYZ]` command is used to display the contents of testX, testY, and testZ in sequence.

Usage of the chmod command

#Task 14

Command :

```
/home/rhythmsapkota/IPL/RCB>ls -l
```

Response:

```
total 16
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 234 Mar 21 20:44 testResult
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota  78 Mar 21 20:43 testX
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota  78 Mar 21 20:43 testY
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota  78 Mar 21 20:43 testZ
```

Description:

ls -l is a command displays a long list of files in a directory.

Command:

```
/home/rhythmsapkota/IPL/RCB>chmod 000 testX
/home/rhythmsapkota/IPL/RCB>ls -l testX
```

Response:

```
----- 1 rhythmsapkota rhythmsapkota 78 Mar 21 20:43 testX
```

Description:

The command chmod is used to alter a file's permissions. All permissions are removed when we type 000. Ls - l is used to list the file testX in a long list format, allowing us to examine the file's permissions as well.

Command :

```
/home/rhythmsapkota/IPL/RCB>cat testX
```

Response:

```
cat: testX: Permission denied
```

Description:

Cat testX was used to display the contents of the file, but it can no longer be opened because the permission was denied.

Command :

```
/home/rhythmsapkota/IPL/RCB>cat > testX
```

Response:

```
bash: testX: Permission denied
```

Description:

We can't write to the file using `cat > testX` since the permission has been removed.

Command :

```
/home/rhythmsapkota/IPL/RCB>chmod 600 testX  
/home/rhythmsapkota/IPL/RCB>ls -l testX
```

Response:

```
-rw----- 1 rhythmsapkota rhythmsapkota 78 Mar 21 20:43 testX
```

Description:

`chmod 600` is used to provide the file read and write permissions, and `ls -l` is used to list the file in long list format to show the permissions as well.

Command :

```
/home/rhythmsapkota/IPL/RCB>cat testX
```

Response:

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

Description:

We can now use `cat` to read the file because read and write permissions have been provided.

Command :

```
/home/rhythmsapkota/IPL/RCB>cat > testX
```

Response:

```
aaabb Aaaaa AAAAA
bbbcc Bbbbb BBBBb
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
```

Description:

We can now use `cat > Filename` to write the file because read and write permissions have been provided.

#Task 15

Command :

```
/home/rhythmsapkota/IPL/RCB>cd ..
/home/rhythmsapkota/IPL>ls -l
```

Response:

```
total 20
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 KKR
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 'Mumbai Indians'
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 Punjab
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:44 'Rajasthan Royals'
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:44 RCB
```

Description:

`Cd..` returns you to the previous directory, and `ls -l` displays the files in a long list format.

Command :

```
/home/rhythmsapkota/IPL>chmod 000 RCB
/home/rhythmsapkota/IPL>ls -l
```

Response:

```
total 20
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 KKR
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 'Mumbai Indians'
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 Punjab
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:44 'Rajasthan Royals'
d----- 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:44 RCB
```

Description:

Chmod is used to remove all permissions from the RCB directory, and ls -l is used to show the permissions by listing the files in a long list format.

Command :

```
/home/rhythmsapkota/IPL>cat RCB/testX
```

Response:

```
cat: RCB/testX: Permission denied
```

Description:

Reading the file inside the RCB directory is no longer possible since the permission has been removed.

Command :

```
/home/rhythmsapkota/IPL>touch RCB/File1
```

Response:

```
touch: cannot touch 'RCB/File1': Permission denied
```

Description:

Creating the file inside the RCB directory is no longer possible since the permission has been removed.

Command :

```
/home/rhythmsapkota/IPL>ls -l RCB
```

Response:

```
ls: cannot open directory 'RCB': Permission denied
```

Description:

Listing the files inside the RCB directory is no longer possible since the permission has been removed.

Command :

```
/home/rhythmsapkota/IPL>chmod 700 RCB  
/home/rhythmsapkota/IPL>ls -l
```

Response:

```
total 20  
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 KKR  
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 'Mumbai Indians'  
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 Punjab  
drwxrwxr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:44 'Rajasthan Royals'  
drwx----- 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:44 RCB
```

Description:

Chmod 700 alters the permissions to read, write, and execute on a file. Ls -l shows the permissions by listing the files in a long list format.

Command :

```
/home/rhythmsapkota/IPL>cat RCB/testX
```

Response:

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

Description:

Reading the file in the RCB directory is possible since the permissions have been granted.

Command :

```
/home/rhythmsapkota/IPL>touch RCB/File1  
/home/rhythmsapkota/IPL>ls -l RCB
```

Response:

```
total 16  
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 0 Mar 21 20:47 File1  
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 234 Mar 21 20:44 testResult  
-rw----- 1 rhythmsapkota rhythmsapkota 78 Mar 21 20:46 testX
```

```
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 78 Mar 21 20:43 testY
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 78 Mar 21 20:43 testZ
/home/rhythmsapkota/IPL>cd 'Rajasthan Royals'
```

Description:

Because the permissions have been provided, we could create a new file called 'File1' and list all of the files in the RCB directory.'

Usage of the grep command

#Task 16

Command :

```
/home/rhythmsapkota/IPL>cd 'Rajasthan Royals'
/home/rhythmsapkota/IPL/Rajasthan Royals>grep bb testX
```

Response:

```
aaabb Aaaaa AAAAA
bbbcc Bbbbbb BBBBB
```

Description:

cd is used to change the directory to 'Rajasthan Royals'. Grep bb is used to find and display the lines containing bb in testX.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -v bb testX
```

Response:

```
ff-ff Ccccc CCCCC
ccdd Ddddd DDDDD
```

Description:

Grep -v bb is used to find and display the lines not containing bb in testX.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -n bb testX
```

Response:

```
1:aaabb Aaaaa AAAAA
2:bbbcc Bbbbbb BBBBB
```

Description:

Grep -v bb is used to find and display lines in testX that do not include bb.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -l bb *
```

Response:

```
testX
testY
testZ
```

Description:

Grep -l bb * is used to find and display text files which contains bb in them.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -i bb *
```

Response:

```
testX:aaabb Aaaaa AAAAA
testX:bbbcc Bbbbbb BBBBB
testY:aaabb Aaaaa AAAAA
testY:bbbcc Bbbbbb BBBBB
testZ:aaabb Aaaaa AAAAA
testZ:bbbcc Bbbbbb BBBBB
```

Description:

Grep -i bb * is used to find and show all lines that include the letter bb, regardless of case.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -i BB *
```

Response:


```
testX:aaabb Aaaaa AAAAA
testX:bbbcc Bbbbb BBBBb
testY:aaabb Aaaaa AAAAA
testY:bbbcc Bbbbb BBBBb
testZ:aaabb Aaaaa AAAAA
testZ:bbbcc Bbbbb BBBBb
```

Description:

Grep -i BB * is used to find and show all lines that include the letter bb, regardless of case.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -c bb *
```

Response:

```
testX:2
testY:2
testZ:2
```

Description:

The command grep -c bb * is used to find and show the number of lines that contain the letter bb.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep '^A' *
```

Response:

Description:

Grep 'A' * is used to find and show lines that begin with the letter A. There were no results because no words began with the letter A.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>grep -n '^' testX
```

Response:

```
1:aaabb Aaaaa AAAAA
2:bbbcc Bbbbb BBBBb
```

```
3:ff-ff Ccccc CCCCC
4:ccdd Ddddd DDDDD
```

Description:

Grep -n " displays the number of lines in testX as well as their contents.

Aliasing

#Task 17

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>alias ls1='ls -l'
/home/rhythmsapkota/IPL/Rajasthan Royals>alias lsR='ls -R'
```

Response:

Description:

Alias is used to give names.

Command :

```
/home/rhythmsapkota/IPL/Rajasthan Royals>cd;
/home/rhythmsapkota>ls1
```

Response:

```
total 48
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 12288 Mar 21 20:48 20049417Cw2P1
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:13 Desktop
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Documents
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Downloads
drwxrwxr-x 7 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 IPL
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Music
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Pictures
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Public
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Templates
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Videos
```

Description:

The alias given before ls1 is used, and cd is used to change the directory to Rajasthan Royals.

Command :

```
/home/rhythmsapkota>lsR
```

Response:

```
.:
20049417Cw2P1 Documents IPL Pictures Templates
Desktop Downloads Music Public Videos

./Desktop:

./Documents:

./Downloads:

./IPL:
KKR 'Mumbai Indians' Punjab 'Rajasthan Royals' RCB

./IPL/KKR:

'./IPL/Mumbai Indians':

./IPL/Punjab:

'./IPL/Rajasthan Royals':
testX testY testZ

./IPL/RCB:
File1 testResult testX testY testZ

./Music:

./Pictures:

./Public:

./Templates:

./Videos:
```

Description:

lsR is called with the alias given before this.

Command :

```
/home/rhythmsapkota>alias
```

Response:

```
alias alert='notify-send --urgency=low -i "${[ $? = 0 ] && echo terminal || echo error}"
"${history|tail -n1|sed -e '\''s/^\s*[0-9]\+\s*//;s/[\;&]\s*alert$//'\`}'"
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
alias lsR='ls -R'
alias lsl='ls -l'
```

Description:

Alias is used to check all of the aliases that have been provided.

Task 18

Command :

```
/home/rhythmsapkota>unalias lsl
/home/rhythmsapkota>unalias lsR
/home/rhythmsapkota>alias
```

Response:

```
alias alert='notify-send --urgency=low -i "${[ $? = 0 ] && echo terminal || echo error}"
"${history|tail -n1|sed -e '\''s/^\s*[0-9]\+\s*//;s/[\;&]\s*alert$//'\`}'"
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
```

Description:

Unalias is used to delete the previously specified alias. The alias is checked after it has been removed.

Task 19

Command :

```
/home/rhythmsapkota>nano .bashrc
alias ls1='ls -l'
alias lsR='ls -R'
/home/rhythmsapkota>source .bashrc
rhythmsapkota@ubuntu:~$ exit
```

Response:

```
Exit
Script done on 2022-03-21 20:55:58-07:00 [COMMAND_EXIT_CODE="0"]
```

Description:

The environmental file is opened using Nano.bashrc. The alias is permanently assigned to ls1 and lsR in the file. The script is exited to see if the permanent alias works.

Command :

```
/home/rhythmsapkota>ls1
```

Response:

```
total 68
-rw-rw-r-- 1 rhythmsapkota rhythmsapkota 31291 Mar 21 20:55 20049417Cw2P1
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 21 20:13 Desktop
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Documents
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Downloads
drwxrwxr-x 7 rhythmsapkota rhythmsapkota 4096 Mar 21 20:40 IPL
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Music
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Pictures
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Public
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Templates
drwxr-xr-x 2 rhythmsapkota rhythmsapkota 4096 Mar 19 00:43 Videos
```

Description:

After a restart, open the terminal. The alias ls1, which was given earlier, is checked.

Command :

```
/home/rhythmsapkota>lsR
```

Response:

```

.:
20049417Cw2P1 Documents IPL Pictures Templates
Desktop Downloads Music Public Videos

./Desktop:

./Documents:

./Downloads:

./IPL:
KKR 'Mumbai Indians' Punjab 'Rajasthan Royals' RCB

./IPL/KKR:

'./IPL/Mumbai Indians':

./IPL/Punjab:

'./IPL/Rajasthan Royals':
testX testY testZ

./IPL/RCB:
File1 testResult testX testY testZ

./Music:

./Pictures:

./Public:

./Templates:

./Videos:

```

Description:

The alias lsR, which was given earlier, is checked.

Task 20

Command :

```

/home/rhythmsapkota>nano .bashrc
alias noAllf='ls -al|wc -l'

```

```
/home/rhythmsapkota>source .bashrc
```

Response:

Description:

The environmental file is opened using Nano.bashrc. The alias for noAllf is created permanently in the file.

Task 21

Command :

```
/home/rhythmsapkota>nano .bashrc  
alias noAsubsir='ls -aR|wc -l'  
/home/rhythmsapkota>source .bashrc
```

Response:

Description:

The environmental file is opened using Nano.bashrc. The alias for noAsubsir is created permanently in the file.

Task 22

Command :

```
/home/rhythmsapkota>nano .bashrc  
alias noAcs='ls-lR|grep ^[gtw]|wc -l'  
/home/rhythmsapkota>source .bashrc
```

Response:

Description:

The environmental file is opened using Nano.bashrc. The alias for noAcs is created permanently in the file.

Usage of your own commands

Task 23

Command :

```
/home/rhythmsapkota>noAllf
```

Response:

```
23
```

Description:

The alias noAllf counts and displays the total number of files in the working directory, including hidden files.

Task 24

Command :

```
/home/rhythmsapkota>noAsubsir
```

Response:

```
523
```

Description:

The alias noAsubsir is used to recursively count and report the number of all subdirectories and hidden files located in the working directory.

Task 25

Command :

```
/home/rhythmsapkota>noAcs
```

Response:

```
15
```

Description:

The alias noAcs is used to count and display the number of files in the current directory that begin with the letters g,t, or w.

Command history

Task 26

Command :

```
/home/rhythmsapkota>history 7
```

Response:

```
452 PS1='$PWD>'
453 ls1
454 lsR
455 noAllf
456 noAsubsir
457 noAcs
458 history 7
```

Description:

The history command displays the past commands entered into the terminal.

Task 27

Command :

```
/home/rhythmsapkota>!--6
```

Response:

```
lsR
.:
20049417Cw2P1 Documents IPL Pictures Templates
Desktop Downloads Music Public Videos

./Desktop:

./Documents:

./Downloads:

./IPL:
KKR 'Mumbai Indians' Punjab 'Rajasthan Royals' RCB

./IPL/KKR:

'./IPL/Mumbai Indians':
```

```
./IPL/Punjab:

'./IPL/Rajasthan Royals':
testX testY testZ

./IPL/RCB:
File1 testResult testX testY testZ

./Music:

./Pictures:

./Public:

./Templates:

./Videos:
```

Description:

! -6 is used to run a command that was last used six commands ago.

Task 28

Command :

```
/home/rhythmsapkota>fc -e- i
```

Response:

```
Bash: fc: Command not found
```

Description:

The command Fc -e -i is used to run a previous command that began with the letter i. Since there was no command starting from i 'command not found' response was shown.

CONCLUSION

There were some difficulties and errors while doing the coursework but finally with the help of tutors and other online resources i completed my coursework part 1. Also, some rubbish from the command is also cleaned before finalizing the report.

Finally, the tasks were successfully accomplished and are documented in the script file 20049417CW2P1.

REFERENCES

- London Metropolitan University, (2020). *Operating System* [online] available at:<
http://learning.londonmet.ac.uk/computing/IC_Link/Comp/modules/cc2011/WeekByWeek.html> [Accessed February 17, 2020]