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PRACTICAL COMPUTING

THAPAR INSTITUTE
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(Deemed to be University)

Submitted to
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Assignment 1

Question 1

A) List out all the files present in the system (including hidden ones)
B) list all the files with their size
C) sort all the listed files with time and date.

Solution -   a) ls -a

```
~$ ls -a
.                               .bash_profile  .jupyter-blobs-v0.db  .ssh                    GAmes                 linuxcommands.txt
..                              .bashrc        .new.term-0.term      .terminal.term-0.term   Games.txt             new.term
.2020-08-20-092011.term-0.term  .config        .sage                 .z.term-0.term          'Practical Computing'  sample.txt
.2020-08-23-041714.term-0.term  .gitconfig     .smc                  2020-08-13-124334       Puzzle                z.term
'.Welcome to CoCalc.term-0.term' .gitexcludes  .snapshots            2020-08-23-041714.term  file2
```

b) ls -al in long format

```
~$ ls -al
total 22
drwxr-xr-x 8 user user   20 Aug 22 21:45  .
drwxr-xr-x 1 root root 4096 Aug 12 20:40  ..
-rw-r--r-- 1 user user 4102 Aug 22 21:59  .2020-08-20-092011.term-0.term
-rw-r--r-- 1 user user 1961 Aug 22 21:46 '.Welcome to CoCalc.term-0.term'
lrwxrwxrwx 1 user user   18 Aug  6 03:28  .bash_profile -> /home/user/.bashrc
-rw-r--r-- 1 user user 2355 Aug  6 03:28  .bashrc
drwx------ 3 user user    3 Aug  6 03:28  .config
-rw-r--r-- 1 user user   47 Aug  6 03:28  .gitconfig
-rw-r--r-- 1 user user  918 Aug  6 03:28  .gitexcludes
-rw-r--r-- 1 user user 8192 Aug  6 03:28  .jupyter-blobs-v0.db
drwxr-xr-x 2 user user    2 Aug  6 03:28  .sage
lrwxrwxrwx 1 user user   12 Aug 22 21:45  .smc -> /tmp/.cocalc
dr-xr-xr-x 2 user user    2 Aug 22 21:55  .snapshots
drwxr-xr-x 2 user user    3 Aug 22 21:45  .ssh
drwxr-xr-x 2 user user   10 Aug 13 07:18  2020-08-13-124334
-rw-r--r-- 1 user user    0 Aug 22 21:50  2020-08-20-092011.term
drwxr-xr-x 2 user user    2 Aug  6 03:29  GAmes
-rw-r--r-- 1 user user    0 Aug  6 03:30  Games.txt
-rw-r--r-- 1 user user    0 Aug 22 21:45 'Welcome to CoCalc.term'
-rw-r--r-- 1 user user   13 Aug 20 03:50  file2
~$ ls -l
```

c) ls -alt

```
~$ ls -alt
total 22
-rw-r--r-- 1 user user 5832 Aug 22 22:01  .2020-08-20-092011.term-0.term
dr-xr-xr-x 2 user user    2 Aug 22 21:55  .snapshots
-rw-r--r-- 1 user user    0 Aug 22 21:50  2020-08-20-092011.term
-rw-r--r-- 1 user user 1961 Aug 22 21:46 '.Welcome to CoCalc.term-0.term'
-rw-r--r-- 1 user user    0 Aug 22 21:45 'Welcome to CoCalc.term'
drwxr-xr-x 2 user user    3 Aug 22 21:45  .ssh
drwxr-xr-x 8 user user   20 Aug 22 21:45  .
lrwxrwxrwx 1 user user   12 Aug 22 21:45  .smc -> /tmp/.cocalc
-rw-r--r-- 1 user user   13 Aug 20 03:50  file2
drwxr-xr-x 2 user user   10 Aug 13 07:18  2020-08-13-124334
drwxr-xr-x 1 root root 4096 Aug 12 20:40  ..
-rw-r--r-- 1 user user    0 Aug  6 03:30  Games.txt
drwxr-xr-x 2 user user    2 Aug  6 03:29  GAmes
-rw-r--r-- 1 user user   47 Aug  6 03:28  .gitconfig
-rw-r--r-- 1 user user  918 Aug  6 03:28  .gitexcludes
drwxr-xr-x 2 user user    2 Aug  6 03:28  .sage
-rw-r--r-- 1 user user 8192 Aug  6 03:28  .jupyter-blobs-v0.db
drwx------ 3 user user    3 Aug  6 03:28  .config
lrwxrwxrwx 1 user user   18 Aug  6 03:28  .bash_profile -> /home/user/.bashrc
-rw-r--r-- 1 user user 2355 Aug  6 03:28  .bashrc
```

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Question 2

We have a file sample.txt.
A) How can we use this redirection operator as ">"?
B) Also, the other redirection operator as ">>"

Solution

The ">" operator is used to write on a file and if certain contents are already present it will automatically overwrite the contents of the file.
Whereas, the ">>" operator is used to append contents to the existing file.

```
~$ touch sample.txt
~$ cat sample.txt
~$ cat > sample.txt
There are various Games I like to play.

~$ cat sample.txt
There are various Games I like to play.
~$ cat >> sample.txt
Cricket is my favourite game.

~$ cat sample.txt
There are various Games I like to play.
Cricket is my favourite game.
~$ cat > sample.txt
I dont play any sport any more.

~$ cat sample.txt
I dont play any sport any more.
~$ █
```

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Question 3

How to copy a file in Linux?

Solution

To copy a file in Linux, we use cp command.
Syntax - cp SourceFile TargetFile

```
~$ ls
2020-08-13-124334  2020-08-23-041714.term  GAmes  Games.txt  Puzzle  file2  sample.txt  sx
~$ cp Games.txt Puzzle
~$ ls
2020-08-13-124334  2020-08-23-041714.term  GAmes  Games.txt  Puzzle  file2  sample.txt  sx
~$ ls Puzzle
Games.txt
```

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Question 4

How would you delete a directory in Linux? Execute both the commands.

Solution - rmdir

```
~$ ls
2020-08-13-124334  2020-08-23-041714.term  Fake1  Fake2  GAmes  Games.txt  Puzzle  file2  sample.txt  sx
~$ rmdir Fake1 Fake2
~$ rm sx
~$ ls
2020-08-13-124334  2020-08-23-041714.term  GAmes  Games.txt  Puzzle  file2  sample.txt
~$ █
```

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Question 5

How does the case sensitivity affects the way you use commands?

Solution - Linux is case sensitive. The commands that are running in lowercase

won't run in uppercase.

```
~$ MKDIR THAPAR
bash: MKDIR: command not found
~$ DATE
bash: DATE: command not found
~$ CAL
bash: CAL: command not found
~$ ECHO GAME
bash: ECHO: command not found
```

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Question 6

A) How can we switch from present directory to any other directory?

B) Create one directory with the name practical computing.

C) Create a file in practical computing directory with the name as commands.txt.

D) Write the basic commands in that particular file

E) Copy the content of commands.txt to linuxcommands.txt

F) Check if the contents have been written on the new file

G) Remove the previous file i.e. commands.txt from the directory itself

Solution -

A) To switch from parent to any other directory, use command cd followed by the directory you want to switch.

```
~$ ls
2020-09-20-155047.term   Downloads
~$ pwd
/home/user
~$ cd Downloads
~/Downloads$ cd ~
```

The next commands for all the operation in question are as follows :

```
~$ ls
2020-08-13-124334  2020-08-23-041714.term  GAmes  Games.txt  Puzzle  file2  sample.txt
~$ mkdir Practical\ Computing
~$ ls
 2020-08-13-124334   2020-08-23-041714.term   GAmes   Games.txt  'Practical Computing'   Puzzle   file2   sample.txt
~$ touch commands.txt
~$ cat > commands.txt
ls
echo
date
calendar
mkdir
rmdir
cp
del
who
whoami
pwd
find
touch
cat
tree
```

```
~$ ls
 2020-08-13-124334  2020-08-23-041714.term  GAmes  Games.txt 'Practical Computing'  Puzzle  commands.txt  file2  new.term  sample.txt  z.term
~$ touch linuxcommands.txt
~$ ls
 2020-08-13-124334      GAmes     'Practical Computing'  commands.txt  linuxcommands.txt  sample.txt
 2020-08-23-041714.term  Games.txt  Puzzle                file2         new.term           z.term
~$ cp commands.txt linuxcommands.txt
~$ cat linuxcommands.txt
ls
echo
date
calendar
mkdir
rmdir
cp
del
who
whoami
pwd
find
touch
cat
tree
~$ rm commands.txt
~$ ls
 2020-08-13-124334  2020-08-23-041714.term  GAmes  Games.txt 'Practical Computing'  Puzzle  file2  linuxcommands.txt  new.term  sample.txt  z.term
```

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