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Q1. Explore the following commands with various options, refer man pages for further help

**a) date :-**

- 1) date +%a**
- 2) date +%A**
- 3) date +%b**
- 4) date +%B**
- 5) date +%c**
- 6) date +%C**
- 7) date +%d**
- 8) date +%D**
- 9) date +%e**
- 10) date +%F**
- 11) date +%g**
- 12) date +%G**
- 13) date +%h**
- 14) date +%H**
- 15) date +%I**
- 16) date +%j**
- 17) date +%k**
- 18) date +%l**
- 19) date +%m**
- 20) date +%M**
- 21) date +%n**
- 22) date +%N**
- 23) date +%p**
- 24) date +%P**

25) date +%r

26) date +%R

27) date +%s

28) date +%S

29) date +%t

30) date +%T

31) date +%u

32) date +%U

b) cal :-

1) cal 2020

2) cal -y

3) cal 2 2020

c) bc :-

1) bc -h

2) bc -i

3) bc -l

4) bc -w

5) bc -s

6) bc -q

7) bc -v

d) echo :-

echo "to print/display something" ;

e) who :-

who [options] [filename]

f) whoami :-

whoami [OPTION]

g) logname :-

logname [OPTION]

h) uname :-

uname [OPTION]

i) seq :-

**seq [OPTION]**

**j) clear :-**

**This command is used to clear terminal screen.**

Q2. A) Create three directory a b and c and create a.txt, b.txt and c.txt in each directory respectively and then copy c directory into the a.

**ANS:- mkdir a b c**

**touch a/a.txt b/b.txt c/c.txt**

**cp -r c a**

B) Move Directory b to c.

**ANS:- mv b c**

C) Create alias of ls -lh command to your name.

**ANS:- alias pvn="ls -lh"**

D) Change Directory name a to cdac.

**ANS :- mv a cdac**

Q3. A) Create five files file1.txt, file2.txt , file3.txt , file4.txt and file5.txt with some text inside it. Search for 's' character inside all the files using grep command.

Also Use cat to view all file content together.

**ANS:- =) touch file1.txt file2.txt file3.txt file4.txt file5.txt //creating file**

**=) -nano file1.txt**

**This is first file.**

**-nano file2.txt**

**This is second file.**

**-nano file3.txt**

**This is third file.**

**-nano file4.txt**

**This is fourth file.**

**-nano file5.txt**

**This is fifth file.**

=) **cat file\*.txt** //view content together  
=) **grep 's' file\*.txt** //searching

B) Create file.txt using cat and edit that using nano editor.

**ANS:- =) cat > file.txt**

**This is created using cat command.**

**=) nano file.txt //enter**

**This is edited file using nano editor.**

c) Create 5 empty files using touch command

**ANS:- touch file1.txt file2.txt file3.txt file4.txt file5.txt**

D) Remove previously created directory a , b and c.

**ANS :- rm cdac/a.txt // a directory rename as cdac.**

**rmdir cdac/c**

**rmdir cdac**

**rm c/c.txt**

**rmdir c/b**

**rmdir c**

Q4. Create a file with some content using vi editor

a) Display the file using cat command

**ANS:- cat filename.txt**

b) Display line numbers along with content

**ANS:- cat -n filename.txt**

c) Display the file in reverse order using tac

**ANS:- tac filename.txt**

d) Combine multiple files using cat command

**ANS:- cat file1.txt file2.txt > new.txt**

Q5. Create Random some files and sub directories.

a) display files row wise, column wise, 1 per row

**ANS :- column pvshell.txt**

b) sort the files in ascending, descending order

**ANS :- sort file.txt**

**sort -r file.txt**

c) Create some hidden files and sub directories and display them using "ls -a"

**ANS:- touch .hiddenfile**

**ls -a**

d) Change time stamp of some files and directories using touch command and display the files using ls -t ls -rt

**ANS:- touch -t 205001232359.59 test.txt**

**Stat test.txt**

**touch -a file.txt**

e) Recursive display contents of your home directory.

**ANS:- ls -R**

f) display all attributes of files and directories using ls -l

**ANS :- ls -l**

g) display attributes of a directory using ls -ld

**ANS :- ls -ld**

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Q1. Create directory of your name and then create 4 files inside it named

a.txt, b.txt, c.txt and d.sh. And change the directory permission to only user and also files permission to only user such that

**ANS:- mkdir pvn**

**cd pvn**

**touch a.txt b.txt c.txt d.sh**

**chmod 700 pvn**

a) user can read and write the file a.txt and b.txt

**ANS:- chmod 600 a.txt b.txt**

b) user can write the file c.txt

**ANS:- chmod 600 c.txt**

c) user can execute the file d.sh. Make

Contents of file d.sh:

```
#!/bin/sh
```

```
ls -lh
```

**ANS:- chmod 100 d.sh**

Q2. Change the permission of the previous directory to executable only.

Analyze the output.

**ANS:- chmod 100 pvn**

Q3. Change the permission of the previous directory to read only.

Analyze the output.

**ANS:- chmod 400 pvn**

Q4. Use echo to list the all files of your home directory.

**ANS:- echo \***

Q5. Use echo to list the all files of /etc/ directory

**ANS :- echo \* /etc/**

Q6. Use echo to list the all files of /etc/ directory with extension name .conf

**ANS :- echo \* / etc / "\*" .conf "**

Q7. Use echo to append your name to a.txt

**ANS :- echo pvn > a.txt**

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Note:Many operation might not work. Analyze them

1. Create Three level nested directory a,b and c

**ANS :- mkdir a**

**cd a**

**mkdir b**

**cd b**

**mkdir c**

a)Create at least one hidden file in each directory

**ANS:- cd a**

**touch .a.txt**

```
cd b
touch .b.txt
cd c
touch .c.txt
```

b) Create at least one normal text file in each directory

```
ANS :- cd a
touch a.txt
cd b
touch b.txt
cd c
touch c.txt
```

c) Copy c into a

```
Ans :- cp -r c a
```

d) Copy file inside a into b

```
Ans :- cp -r a/file.txt a/b
```

2. Change the third level directory c permission to read only

```
Ans :- chmod 444 c
```

3. Try copying third level c directory to outside of a

```
Ans :- cp -r a/b/c a
```

```
output=> cp: cannot stat 'a/b/c/f3.txt' : Permission denied
```

```
cp: cannot stat 'a/b/c/.c.txt' : Permission denied
```

```
cp: cannot stat 'a/b/c/f1.txt' : Permission denied
```

```
"PERMISSION DENIED!!"
```

4. Create the directory "data" inside b

```
Ans :- mkdir b/data
```

5. Change the permission of b to read and write only

```
Ans :- chmod 666 b
```

6. Create directory "data2" inside b

```
Ans :- mkdir b/data2
```

=> "PERMISSION DENIED as we have chaged its permission to READ only".

7. Create data.txt file inside b

**Ans :- touch b/data.txt**

=> "PERMISSION DENIED as we have chaged its permission to READ only".

8. Rename the second level directory c to copied\_dir

**Ans :- mv c copied\_dir**

9. Change permission of copied\_dir to only executable

**Ans :- chmod 111 a/copied\_dir**

10. Try ls on copied\_dir

**Ans :- ls a/copied\_dir**

=> "PERMISSION DENIED as we have chaged its permission to EXECUTABLE only".

11. Try moving copied\_dir to outside of a

**Ans :**

12. Try moving data directory outside of a

**Ans :- "PERMISSION DENIED"**

13. Now change the owner of the directory a to root

**Ans :- sudo chown root a**

**password: (Enter root user password)**

14. Change permission of a to read write and executable to only user

**Ans :- sudo su** => getting into the root user

**[sudo] password for pavan-s : Vedant**

**chmod 700 a** => to change permission

15. Try creating directory sample inside a

**Ans :- sudo su**

**[sudo] password for pavan-s : Vedant**

**mkdir a/sample**

16. Create directory x outside a

**Ans :- mkdir x**

17. Try moving x inside a

**Ans :- sudo su**

**[sudo] password for pavan-s : Vedant**



**mv x a**

18. Create directory movies

**Ans :- mkdir movies**

19. Change group of movies to sudo

**Ans :- sudo chgrp sudo movies**

20. Change group of movies to avahi

**Ans :- sudo addgroup avahi                      => creating avahi group**  
**sudo chgrp avahi movies**

21. Try changing permission after changing ownership to root

**Ans :- sudo su**

**[sudo] password for pavan-s: Vedant**

**chmod 777 a**

22. Try Changing permission after changing group to sudo without sudo

**Ans :- chmod 777 movies**

23. Try Changing owner and group both to root

**Ans :- sudo chown root file.txt**

**sudo chgrp root file.txt**

24. Try changing permission

**Ans :- sudo su**

**[sudo] password for pavan-s: Vedant**

**chmod 777 file1.txt**

25. Try deleting the file

**Ans :- rm file.txt**