

THEORY :

To study the basic commands such as **who**, **who am i**, **date**, **cal**, **pwd**, **man**, **mkdir**, **cd**, **rmdir**, **cat**, **mv**, **cp**, **rm**, **wc**, **sort**, **head**, **tail**, **cmp**, **diff**, **ls**, **chmod**, **grep**, **echo** for accessing files and directories.

ANS)

- **who**: Displays a list of users currently logged into the system.
- **whoami**: Displays the username of the current user.
- **date**: Displays or sets the system date and time.
- **cal**: Displays a calendar for a specific month or year.
- **pwd**: Displays the current working directory.
- **man**: Opens the manual pages for any command to display detailed information.
- **mkdir**: Creates a new directory.
- **cd**: Changes the current directory.
- **rmdir**: Removes an empty directory.
- **cat**: Displays the content of a file or concatenates files.
- **mv**: Moves or renames files and directories.
- **cp**: Copies files or directories.
- **rm**: Removes files or directories.
- **wc**: Counts the number of words, lines, and bytes in a file.
- **sort**: Sorts the content of a file line by line.
- **head**: Displays the first few lines of a file.
- **tail**: Displays the last few lines of a file.
- **cmp**: Compares two files byte by byte.
- **diff**: Shows the differences between two files line by line.
- **ls**: Lists files and directories in the current directory.
- **chmod**: Changes the file permissions.
- **grep**: Searches for a specific pattern in files.
- **echo**: Displays a line of text or a variable's value.

Q1) Write the commands to create the following directory hierarchy:

-> DOS_Regdno ->DOSass1->dir1

Ans) mkdir -p DOS_2241018124/DOSass1/dir1

OUTPUT :

```
ritikh@Ritikh: ~  
ritikh@Ritikh:~$ mkdir -p ~/DOS_2241018124/DOSass1/dir1  
ritikh@Ritikh:~$ cd ~  
ls -l DOS_2241018124  
total 4  
drwxr-xr-x 3 ritikh ritikh 4096 Sep 29 09:09 DOSass1  
ritikh@Ritikh:~$ ls -l ~/DOS_2241018124/DOSass1  
total 4  
drwxr-xr-x 2 ritikh ritikh 4096 Sep 29 09:09 dir1
```

Q2) Write the commands to create another directory with name dir2 in directory DOSass1 and make dir2 as the current working directory.

Ans) mkdir DOS_2241018124/DOSass1/dir2

cd DOS_2241018124/DOSass1/dir2

OUTPUT:

```
ritikh@Ritikh:~$ mkdir DOS_2241018124/DOSass1/dir2  
ritikh@Ritikh:~$ cd DOS_2241018124/DOSass1/dir2  
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir2$ |
```

Q3) Write the command to delete the directory dir2 , when DOS_Regdno will be the current working directory.

Ans) cd ..

rmdir dir2

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir2$ cd ..  
ritikh@Ritikh:~/DOS_2241018124/DOSass1$ rmdir dir2  
ritikh@Ritikh:~/DOS_2241018124/DOSass1$ ls -l  
total 4  
drwxr-xr-x 2 ritikh ritikh 4096 Sep 29 09:09 dir1
```

Q4) Write the command to create a file named as file1 using cat command inside dir1. Write your name, regdno, branch, semester and section in file1. Then display the content of the file.

Ans) cd ~/DOS_2241018124/DOSass1/dir1

cat > file1

Name: A. Ritikh

Regd No: 2241018124

Branch: CSE

Semester: 5th

Section: 51

Then Ctrl + D to save the file

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1$ cd ~/DOS_2241018124/DOSass1/dir1
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat > file1
Name: A. Ritikh
Regd No: 2241018124
Branch: CSE
Semester: 5th
Section: 51
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat file1
Name: A. Ritikh
Regd No: 2241018124
Branch: CSE
Semester: 5th
Section: 51
```

Q5) Write the command to create a file named as file2 using cat command inside dir1. Write your semester wise SGPA in file2.

ans) cd ~/DOS_2241018124/DOSass1/dir1

cat > file2

Semester 1 SGPA: 8.00

Semester 2 SGPA: 8.25

Semester 3 SGPA: 8.40

Semester 4 SGPA: 8.60

Semester 5 SGPA: 8.42

After typing this, press CTRL + D to save the file and exit.

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cd ~/DOS_2241018124/DOSass1/dir1
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat > file2
Semester 1 SGPA: 8.00
Semester 2 SGPA: 8.25
Semester 3 SGPA: 8.40
Semester 4 SGPA: 8.60
Semester 5 SGPA: 8.42

ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat file2
Semester 1 SGPA: 8.00
Semester 2 SGPA: 8.25
Semester 3 SGPA: 8.40
Semester 4 SGPA: 8.60
Semester 5 SGPA: 8.42
```

Q6) Create a file named as file3 storing content of file1 merged with content of file2.

ans) cat file1 file2 > file3

cat file3

OUTPUT :

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat file1
file2 > file3
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat file3
Name: A. Ritikh
Regd No: 2241018124
Branch: CSE
Semester: 5th
Section: 51
Semester 1 SGPA: 8.00
Semester 2 SGPA: 8.25
Semester 3 SGPA: 8.40
Semester 4 SGPA: 8.60
Semester 5 SGPA: 8.42
```

Q7) Write the command to rename file2 as markinfo.

ans) mv file2 markinfo

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ mv file2
markinfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -l
total 12
-rw-r--r-- 1 ritikh ritikh 74 Sep 29 09:42 file1
-rw-r--r-- 1 ritikh ritikh 185 Sep 29 10:12 file3
-rw-r--r-- 1 ritikh ritikh 111 Sep 29 09:54 markinfo
```

Q8) Write the command to copy the content of file1 to reginfo

ans) cp file1 reginfo

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cp file1
reginfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -l
total 16
-rw-r--r-- 1 ritikh ritikh 74 Sep 29 09:42 file1
-rw-r--r-- 1 ritikh ritikh 185 Sep 29 10:12 file3
-rw-r--r-- 1 ritikh ritikh 111 Sep 29 09:54 markinfo
-rw-r--r-- 1 ritikh ritikh 74 Sep 29 10:31 reginfo
```

Q9) Write the command to display the inode values of file1,markinfo, reginfo.

ans) `ls -li file1 markinfo reginfo`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -li fil
e1 markinfo reginfo
9935 file1 29552 markinfo 29602 reginfo
```

Q10) Write the command to delete file1.

ans) `rm file1`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ rm file1
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -l
total 12
-rw-r--r-- 1 ritikh ritikh 185 Sep 29 10:12 file3
-rw-r--r-- 1 ritikh ritikh 111 Sep 29 09:54 markinfo
-rw-r--r-- 1 ritikh ritikh 74 Sep 29 10:31 reginfo
```

Q11) Write the command to count the number of lines, words, characters in markinfo

ans) `wc markinfo`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ wc markinfo
6  20 111 markinfo
```

Q12) Write the command to create a file named as Personalinfo inside dir1. Write your name, regdno, address in the file.

ans) echo "Name: A. Ritikh" > Personalinfo

echo "Regd No: 2241018124" >> Personalinfo

echo "Address: Old Town, Bhubaneswar" >> Personalinfo

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo "Name:
A. Ritikh" > Personalinfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo "Regd No: 2241018124" >> Personalinfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo "Address: Old Town, Bhubaneswar" >> Personalinfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat Personalinfo
Name: A. Ritikh
Regd No: 2241018124
Address: Old Town, Bhubaneswar
```

Q13) Write the command to display the content of markinfo in reverse order.

ans) tac markinfo

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ tac markinfo
Semester 5 SGPA: 8.42
Semester 4 SGPA: 8.60
Semester 3 SGPA: 8.40
Semester 2 SGPA: 8.25
Semester 1 SGPA: 8.00
```

Q14) Check the output of the following command:

`cmp reginfo personalinfo`

`diff reginfo personalinfo`

ans) i) reginfo Personalinfo differ: byte 37, line 3

ii) 3,5c3

< Branch: CSE

< Semester: 5th

< Section: 51

> Address: Old Town, Bhubaneswar

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cmp reginfo
Personalinfo
reginfo Personalinfo differ: byte 37, line 3
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ diff reginfo
Personalinfo
3,5c3
< Branch: CSE
< Semester: 5th
< Section: 51
---
> Address: Old Town, Bhubaneswar
```

Q15) Write a command to count the number of files in the current working directory and display that number.

ans) `ls -1 | wc -l`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -1 | wc -l
4
```

Q16) Write a command to include all the file names present in a current working directory in a file named as filelist without causing filelist to be included in the names.

ans) `(ls -1 | grep -v "filelist") > filelist`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ (ls -1 | grep
-v "filelist") > filelist
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ cat filelist
Personalinfo
file3
markinfo
reginfo
```

Q17) Write a command to give write permission to all the users of file reginfo.

ans) `chmod a+w reginfo`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ chmod a+w reg  
info  
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -l reginfo  
-rw-rw-rw- 1 ritikh ritikh 74 Sep 29 10:31 reginfo
```

Q18) Write a command to discard write permission from group users group users of file reginfo.

Ans) `chmod g-w reginfo`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ chmod g-w reg  
info  
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -l reginfo  
-rwxr-xrwx 1 ritikh ritikh 74 Sep 29 10:31 reginfo
```

Q19) Write the command to set rwx permissions for all the users of file reginfo.

ans) `chmod a+rwx reginfo`

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ chmod a+rwx r  
eginfo  
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ ls -l reginfo  
-rwxrwxrwx 1 ritikh ritikh 74 Sep 29 10:31 reginfo
```

Q20) Differentiate between following commands:

`date; pwd`

`date; pwd | wc -l`

`(date; pwd) | wc -l`

ans) The first command displays the date and the current working directory separately.

The second command displays the date and counts the lines of output from `pwd`, resulting in a count of 1.

The third command counts the total lines from both `date` and `pwd`, resulting in a count of 2.

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ date;pwd
Sun Sep 29 11:15:22 IST 2024
/home/ritikh/DOS_2241018124/DOSass1/dir1
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ date; pwd | w
c -l
Sun Sep 29 11:15:41 IST 2024
1
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ (date; pwd) |
wc -l
2
```

Q21) Interpret the output of the following commmands:

- a. `echo *`
- b. `echo ***`
- c. `echo '***'`
- d. `echo ***`
- e. `echo ***`
- f. `echo */*`
- g. `echo Don't do this`
- h. `echo "Don't do this"` (Quotes of one kind protect quotes of other kind)
- i. `echo Hello # world`
- j. `echo " Hello # world"`
- k. `echo ' Hello # world'`
- l. `echo date`
- m. `echo 'date'`
- n. `echo "date"`
- o. `echo `date``

Ans)

Personalinfo file3 filelist markinfo reginfo

Personalinfo file3 filelist markinfo reginfo

/

Dont do this

“Dont do this”

Hello

“ Hello

Hello # world

Date

Date

“date”

Sun Sep 29 11:47:08 IST 2024

OUTPUT:

```
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo *
Personalinfo file3 filelist markinfo reginfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo ***
Personalinfo file3 filelist markinfo reginfo
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo '***'
***
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo \***
***
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo \*\*\*
***
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo */*
*/*
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo Don't do this
>
>
-bash: unexpected EOF while looking for matching `''
-bash: syntax error: unexpected end of file
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo Don't do this
> ^C
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo Don't do this
> ;
> ;
Dont do this
.

ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo "Don't do this"
> '
"Dont do this"

ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo Hello # world
Hello
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo " Hello # world"
" Hello
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo ' Hello # world'
Hello # world
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo date
date
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo 'date'
date
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo "date"
"date"
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ echo `date`
Sun Sep 29 11:47:08 IST 2024
ritikh@Ritikh:~/DOS_2241018124/DOSass1/dir1$ |
```