LAB ASSIGNMENT-2

Subject: Operating system concepts using Unix/Linux

1. Write a command that finds all .log files modified in the last 7 days

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ find . -name "*.log" -mtime -7
./1.log
./2.log
./3.log
```

2. Write a command that displays the content of a large file (largefile.txt) page by page.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ less largefile.txt
```

```
1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. Nine
10. Ten
11. Eleven
12. Twelve
13. Thirteen
14. Fourteen
15. Fifteen
16. Sixteen
17. Seventeen
18. Eighteen
19. Nineteen
20. Twenty
21. Twenty-One
22. Twenty-Two
23. Twenty-Three
24. Twenty-Four
25. Twenty-Five
26. Twenty-Six
27. Twenty-Seven
28. Twenty-Eight
29. Twenty-Nine
30. Thirty
```

3. Write a command that displays the first 50 lines of a file named largefile.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ head -n 50 largefile.txt
One
Two
Three
Four
Five
Six
Seven
Eight
Nine
Ten
Eleven
Twelve
Thirteen
Fourteen
Fifteen
Sixteen
Seventeen
Eighteen
Nineteen
Twenty
Twenty-One
Twenty-Two
Twenty-Three
Twenty-Four
Twenty-Five
Twenty-Six
Twenty-Seven
Twenty-Eight
Twenty-Nine
Thirty
Thirty-One
Thirty-Two
Thirty-Three
Thirty-Four
Thirty-Five
Thirty-Six
Thirty-Seven
Thirty-Eight
Thirty-Nine
Forty
Forty-One
Forty-Two
Forty-Three
Forty-Four
Forty-Five
Forty-Six
Forty-Seven
Forty-Eight
Forty-Nine
Fifty
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

4. Write a command that continuously monitors the last 20 lines of file.txt in real-time.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ tail -f -n 20 file.txt
Eighty-One
Eighty-Two
Eighty-Three
Eighty-Four
Eighty-Five
Eighty-Six
Eighty-Seven
Eighty-Eight
Eighty-Nine
Ninety
Ninety-One
Ninety-Two
Ninety-Three
Ninety-Four
Ninety-Five
Ninety-Six
Ninety-Seven
Ninety-Eight
Ninety-Nine
Hundred
```

5. Write a command that counts the number of lines, words, and characters in all .txt files in the current directory.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ wc *.txt
  31   60   450 1.txt
  99  100 1331 file.txt
  99  100 1331 largefile.txt
 229  260 3112 total
```

6. Display the first 5 lines of file.txt that contain the word 'UserA' and count the words

```
1.tog  1.txt  2.tog  3.tog  file.txt  largefile.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ grep -m 5 "UserA" file.txt | wc -w
11
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ cat file.txt
UserA  navdip talasaniya
UserA  navdip123
UserA  navdip456
UserA  navdip789
UserA  navdip
```

7. Write a command that creates an empty file named newfile.txt if it doesn't exist and updates the modification time of existingfile.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ touch newfile.txt && touch existingfile.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ |
```

8. Write a command that displays the detailed statistics (size, permissions, modification time) of a file named data.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ touch newfile.txt &&
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ ls -l data.txt
-rwxrwxrwx 1 navdip navdip 37 Mar  6 17:06 data.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ stat data.txt
  File: data.txt
  Size: 37            Blocks: 0          IO Block: 4096   regular file
Device: 53h/83d Inode: 28710447624564433  Links: 1
Access: (0777/-rwxrwxrwx)  Uid: ( 1000/  navdip)   Gid: ( 1000/  navdip)
Access: 2025-03-06 17:06:06.658577200 +0530
Modify: 2025-03-06 17:06:05.954772200 +0530
Change: 2025-03-06 17:06:05.954772200 +0530
 Birth: -
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ ls -l data.txt
-rwxrwxrwx 1 navdip navdip 37 Mar  6 17:06 data.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

9. Create an alias show to quickly view the last 10 lines of myfile.txt

```
-rwxrwxrwx 1 navdip navdip 37 Mar  6 17:06 data.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ alias show="tail -n 10 myfile.txt"
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ show
Eleven
Twelve
Thirteen
Fourteen
Fifteen
Sixteen
Seventeen
Eighteen
Nineteen
Twenty
```

10. Write a command that redirects the content of inputfile.txt to the sort command to sort the lines in ascending order.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ sort inputfile.txt
Eight
Five
Four
Nine
One
Seven
Six
Ten
Three
Two
```

11. Write a command to find lines containing the word "error" from the last 1000 lines of sys.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ tail -n 1000 sys.txt | grep "error"
error
error
error
error
error
error
```

12. Write a command to find lines containing error or failure in messages.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ grep -E "error|failure" messages.txt
Disk error occurred.
Login failure for user admin.
Network error detected.
Password failure attempt.
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

13. Find usernames starting with "a" from user.txt

```
Password failure attempt.
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ grep "^a" user.txt
amit
ankit
ajay
alexa
arvind
```

14. John,25,Engineer

Alice,30,Doctor

Mark,28,Teacher

Extract names and ages (first and second columns) from above data.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ cut -d ',' -f1,2 data.txt
John,25
Alice,30
Mark,28
```

15. Write a command to merge file1.txt and file2.txt line by line, add line numbers, and save the output to merged.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ paste file1.txt file2.txt | nl > merged.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

16. Write a command Sort names.txt in reverse order and remove duplicate lines.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ cat names.txt
navdip
navdip
navdip
amit
ankit
ajay
alexa
arvind
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ sort -ru names.txt
navdip
arvind
ankit
amit
alexa
ajay
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

17. Write a command to join two files if the common key is in different columns (e.g., first column in students.txt, second column in marks.txt)

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ join -1 1 -2 2 students.txt marks.txt
 50 Rahul
 60 Ajay
 70 navdip
```

18. Count the number of unique lines in data.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ sort data.txt | uniq | wc -l
7
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

19. Write a command that create soft link into 1.txt file with 2.txt file.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ ln -s 2.txt 1.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ cat 1.txt
good morning
how are you
hi
how are you
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$
```

20. Write a command to create hard and softlink of orginal.txt.

```
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ ln orginal.txt hardlink.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ ln -s orginal.txt softlink.txt
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ cat hardlink.txt
Eleven
Twelve
Thirteen
Fourteen
Fifteen
Sixteen
Seventeen
Eighteen
Nineteen
Twenty
navdip@LAPTOP-0N09VP88:/mnt/c/Users/navdip/documents/NAVDIP$ cat softlink.txt
Eleven
Twelve
Thirteen
Fourteen
Fifteen
Sixteen
Seventeen
Eighteen
Nineteen
Twenty
```