LAB TASK 1 (UNIX) 423132

1. Obtain the following results

(i) To print the name of operating system

```
student@ai-HP-ProDesk-600-G4-MT:~$ cd Desktop
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ uname
Linux
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

(ii) To print the login name

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ logname
student
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

(iii) To print the host name

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ hostname
ai-HP-ProDesk-600-G4-MT
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

2. Display the calendar for

(i) Jan 2024

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cal January 2024
    January 2024
Su Mo Tu We Th Fr Sa
    1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31
```

(ii) Feb 1995

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cal February 1995
   February 1995
Su Mo Tu We Th Fr Sa
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28
```

(iii) 9th month of the year 7 A.D

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cal 9 7
    September 7
Su Mo Tu We Th Fr Sa
             1  2  3
 4  5  6  7  8  9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30
```

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(iv) For the current month

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cal
    January 2025
Su Mo Tu We Th Fr Sa
            1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31
```

(v) Current Date Day Abbreviation , Month Abbreviation along with year

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ date +"%a, %b %d,%Y"
Tue, Jan 21,2025
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

3. Display the time in 12-Hour and 24 Hour Notations.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ date +"%I %p"
02 PM
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ date +"%T"
14:53:11
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

4. Display the Current Date and Current Time.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ date +"%D"
01/21/25
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ date +"%I %p"
02 PM
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

5. Display the message “GOOD MORNING” in enlarged characters.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ figlet "GOOD MORNING"
  ____ ___   ___  ____    __  __  ___  ____  _   _ ___ _   _  ____
 / ___/ _ \ / _ \|  _ \  |  \/  |/ _ \|  _ \| \ | |_ _| \ | |/ ___|
| |  _| | | | | | | | | | |\/| | | | | |_) |  \| || ||  \| | |  _
| |_| | |_| | |_| | |_| | | |  | | |_| |  _ <| |\  || || |\  | |_| |
 \____|\___/ \___/|____/  |_|  |_|\___/|_| \_\_| \_|___|_| \_|\____|
```

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```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ banner GOOD MORNING
 #####  ####### ####### ######
#     # #     # #     # #     #
#       #     # #     # #     #
#  #### #     # #     # #     #
#     # #     # #     # #     #
#     # #     # #     # #     #
 #####  ####### ####### ######

#     # ####### ######  #     #   ###   #     #  #####
##   ## #     # #     # ##    #    #    ##    # #     #
# # # # #     # #     # # #   #    #    # #   # #
#  #  # #     # ######  #  #  #    #    #  #  # #  ####
#     # #     # #   #   #   # #    #    #   # # #     #
#     # #     # #    #  #    ##    #    #    ## #     #
#     # ####### #     # #     #   ###   #     #  #####
```

6. Display the name of your home directory.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ echo $HOME
/home/student
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

7. Create a directory SAMPLE under your home directory.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cd /home/student
student@ai-HP-ProDesk-600-G4-MT:~$ mkdir Sample
student@ai-HP-ProDesk-600-G4-MT:~$
```

8. Create a sub-directory by name TRIAL under SAMPLE.

```
student@ai-HP-ProDesk-600-G4-MT:~$ cd Sample
student@ai-HP-ProDesk-600-G4-MT:~/Sample$ mkdir Trial
student@ai-HP-ProDesk-600-G4-MT:~/Sample$
```

9. Change to SAMPLE.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cd
student@ai-HP-ProDesk-600-G4-MT:~$ cd -
/home/student/Desktop
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

10. Change to your home directory.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cd
student@ai-HP-ProDesk-600-G4-MT:~$
```

11. Change from home directory to TRIAL by using absolute and relative pathname.

```
student@ai-HP-ProDesk-600-G4-MT:~$ cd /home/student/Sample/Trial
student@ai-HP-ProDesk-600-G4-MT:~/Sample/Trial$ cd /home/student
student@ai-HP-ProDesk-600-G4-MT:~/Sample$ cd Trial
student@ai-HP-ProDesk-600-G4-MT:~/Sample/Trial$
```

12. Remove directory TRIAL.

```
student@ai-HP-ProDesk-600-G4-MT:~/Sample$ rm -r Trial
student@ai-HP-ProDesk-600-G4-MT:~/Sample$
```

13. Create a directory TEST using absolute pathname.

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```
student@ai-HP-ProDesk-600-G4-MT:~/Sample$ path1="/home/student/Sample";echo "he
llo world" > $path1/Test
student@ai-HP-ProDesk-600-G4-MT:~/Sample$
```

14. Using a single command change from current directory to home directory.

```
student@ai-HP-ProDesk-600-G4-MT:~/Sample$ cd
student@ai-HP-ProDesk-600-G4-MT:~$
```

15. Remove a directory using absolute pathname.

```
student@ai-HP-ProDesk-600-G4-MT:~/Sample$ cd
student@ai-HP-ProDesk-600-G4-MT:~$ rm -r  /home/student/Sample
student@ai-HP-ProDesk-600-G4-MT:~$
```

16. Create files myfile and yourfile under Present Working Directory.

```
student@ai-HP-ProDesk-600-G4-MT:~$ touch myfile.txt yourfile.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

17. Display the files myfile and yourfile.

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls
Desktop    Downloads  myfile.txt  Public  Templates  yourfile.txt
Documents  Music      Pictures    snap    Videos
student@ai-HP-ProDesk-600-G4-MT:~$
```

18. Append more lines in the myfile and yourfile files.

```
student@ai-HP-ProDesk-600-G4-MT:~$ cat >myfile.txt
                    Helloo world hi i am nitya
^C
student@ai-HP-ProDesk-600-G4-MT:~$
```

```
student@ai-HP-ProDesk-600-G4-MT:~$ echo "Hi i am nitya who are you" >yourfile.t
xt
student@ai-HP-ProDesk-600-G4-MT:~$
```

19. How will you create a hidden file?.

```
student@ai-HP-ProDesk-600-G4-MT:~$ touch .hidden.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

20. Copy myfile file to emp.

```
student@ai-HP-ProDesk-600-G4-MT:~$ cp myfile.txt .hidden.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

21. Write the command to create alias name for a file.

```
student@ai-HP-ProDesk-600-G4-MT:~$ alias CD="cd Desktop"
student@ai-HP-ProDesk-600-G4-MT:~$ CD
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$
```

22. Move yourfile file to dept.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop$ cd
student@ai-HP-ProDesk-600-G4-MT:~$ mv yourfile.txt dept.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

23. Copy emp file and dept file to TRIAL directory

```
student@ai-HP-ProDesk-600-G4-MT:~$ cp .hidden.txt dept.txt Trial
student@ai-HP-ProDesk-600-G4-MT:~$
```

24. if you compare a file with itself.

```
student@ai-HP-ProDesk-600-G4-MT:~$ cp .hidden.txt dept.txt Trial
student@ai-HP-ProDesk-600-G4-MT:~$ cmp myfile.txt myfile.txt
student@ai-HP-ProDesk-600-G4-MT:~$ diff myfile.txt myfile.txt
student@ai-HP-ProDesk-600-G4-MT:~$ comm myfile.txt myfile.txt
```

25. Compare myfile file and emp file.

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```
student@ai-HP-ProDesk-600-G4-MT:~$ cmp myfile.txt .hidden.txt
```

26. Append two more lines in emp file existing in TRIAL directory.

```
student@ai-HP-ProDesk-600-G4-MT:~/Trial$ cat >.hidden.txt
                    hey i am adding new contenet
^C
student@ai-HP-ProDesk-600-G4-MT:~/Trial$ cat .hidden.txt
                    hey i am adding new contenet
student@ai-HP-ProDesk-600-G4-MT:~/Trial$
```

27. Compare employee file with emp file in TRIAL directory.

```
student@ai-HP-ProDesk-600-G4-MT:~$ cat > employee.txt
                hello world i am so and so
^C
student@ai-HP-ProDesk-600-G4-MT:~$ cmp employee.txt .hidden.txt
employee.txt .hidden.txt differ: byte 17, line 1
student@ai-HP-ProDesk-600-G4-MT:~$
```

28. Find out the users who are currently logged in and find the particular user too.

```
student@ai-HP-ProDesk-600-G4-MT:~$ who
student  :0           2025-01-21 14:13 (:0)
student@ai-HP-ProDesk-600-G4-MT:~$ whoami
student
student@ai-HP-ProDesk-600-G4-MT:~$
```

29. Find the difference between the above file.
30. Remove the files in the TRIAL directory.
31. Can you remove a directory with files by using a single command.
32. Is there any command available to get back a deleted file?
33. Rename TRIAL as DATA.
34. Copy DATA to another directory by name TRIAL.
35. Create a file called dummy in TRIAL and link it to another file by name star.
36. Link the dummy file in TRIAL to another file by name power in DATA.
37. Which command is used to print “Hello Welcome to shell Programming” ?
38. Which command is used to get the value from the user ?
39. Which command is used to make a variable as global ?
40. Which command is used to perform numeric operation ?
41. Explain the different behaviors of ls -l /usr and ls -l /root.
42. Enter the commands man printf and man 3 printf. Why do you get different outputs?
43. How can you enter multiple commands in a single line?
44. How can you enter one command in multiple lines (like ls in one line and -l in the second)?
45. Enter the command wc without any arguments. Write a few lines, and then hit control-d (with the control button pressed, hit d) at the beginning of a new line. See what happens. Explain the output. What does control-d do here?
46. Repeat the last exercise with cat (without any arguments).
47. What happens if you press control-c instead of control-d?
48. Enter ls -l | wc | wc as a command. Explain the output.
49. [*Disk usage*] Go to a directory that contains both regular files and subdirectories. Type the following commands and explain the differences: du, du -a, du -s, du -sk, du -sm, and du -sh. Explain the outputs.
50. Try the command ls -l /dev. What kind of files do you see (look at the first character of each line)? What are these files?
51. [*Symbolic links*] Create a non-empty text file testfile.txt. See the directory listing using ls -l. Then type the command ln -s testfile.txt T. Do ls -l again. What is the permission of T? Try changing the permission of T as chmod 000 T. What happens? Why? Remove T. What happens? Create another symbolic link TT to testfile.txt. Remove testfile.txt. What happens?
52. [*Hard links*] Create a text file abc.txt. See the directory listing (ls -l). Then enter the command ln abc.txt ABC.txt. Again see the directory listing. What are the differences? Explain. Add some extra lines to abc.txt. Again see the directory listing. Explain the changes. Remove the original file abc.txt. Explain what the directory listing shows.

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53. Study the commands head and tail. Explain how you can use these commands to print:
(i) the first 20 lines of a file,
(ii) the last 30 lines of a file, and
(iii) lines 16–32 of a file.
54. Study the commands pwd, chmod -R, chown, chgrp, date, time, strings, and exit.
55. Enter the command cal 1752, and look at September. Can you explain?