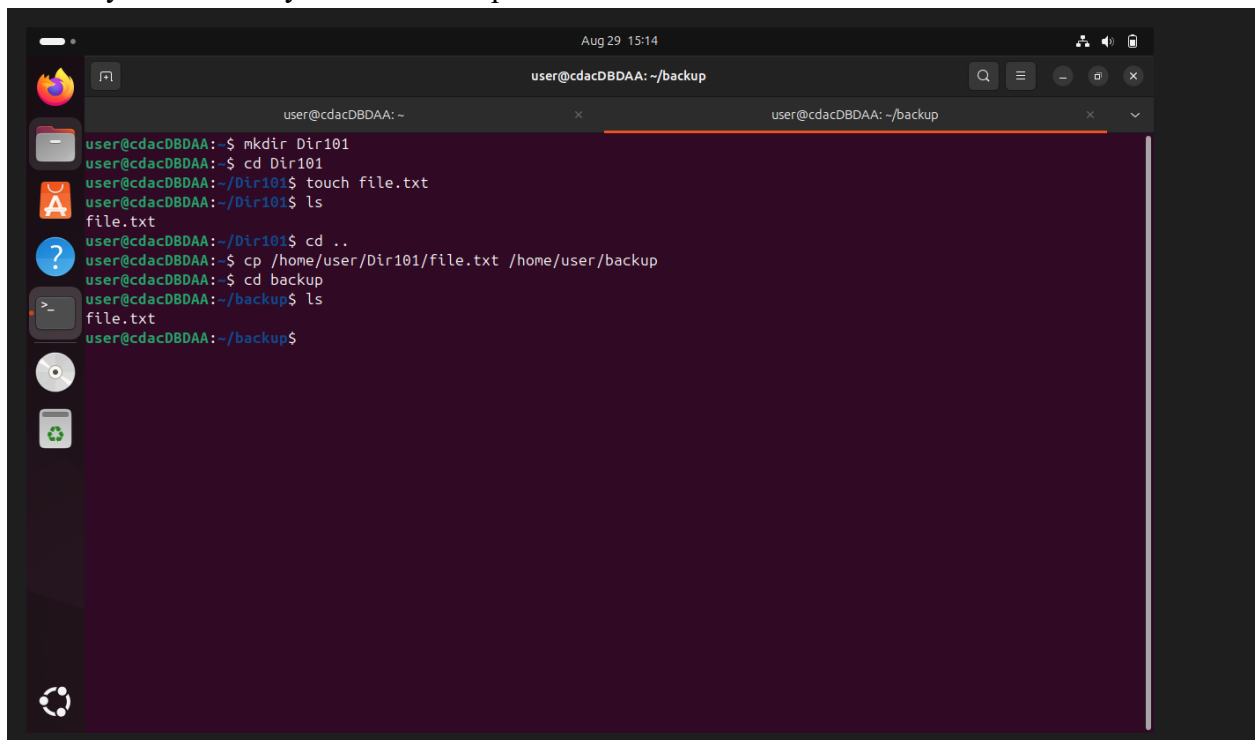
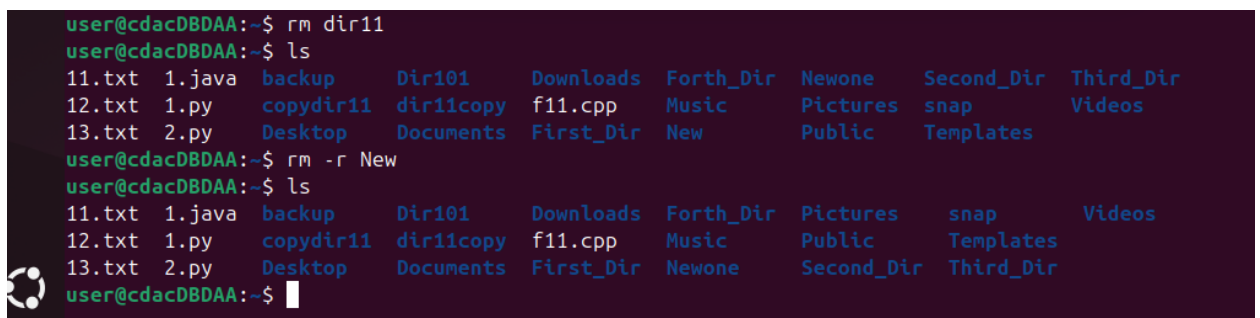


1. How do you use the "cp" command to copy a file named "file.txt" from the current directory to a directory named "backup"?



```
Aug 29 15:14
user@cdacDBDAA: ~/backup
user@cdacDBDAA: ~$ mkdir Dir101
user@cdacDBDAA: ~$ cd Dir101
user@cdacDBDAA: ~/Dir101$ touch file.txt
user@cdacDBDAA: ~/Dir101$ ls
file.txt
user@cdacDBDAA: ~/Dir101$ cd ..
user@cdacDBDAA: ~$ cp /home/user/Dir101/file.txt /home/user/backup
user@cdacDBDAA: ~$ cd backup
user@cdacDBDAA: ~/backup$ ls
file.txt
user@cdacDBDAA: ~/backup$
```

2. What is the difference between the "rm" and "rm -r" commands in Linux?



```
user@cdacDBDAA: ~$ rm dir11
user@cdacDBDAA: ~$ ls
11.txt  1.java  backup  Dir101  Downloads  Forth_Dir  Newone  Second_Dir  Third_Dir
12.txt  1.py    copydir11  dir11copy  f11.cpp  Music  Pictures  snap  Videos
13.txt  2.py    Desktop  Documents  First_Dir  New  Public  Templates

user@cdacDBDAA: ~$ rm -r New
user@cdacDBDAA: ~$ ls
11.txt  1.java  backup  Dir101  Downloads  Forth_Dir  Pictures  snap  Videos
12.txt  1.py    copydir11  dir11copy  f11.cpp  Music  Public  Templates
13.txt  2.py    Desktop  Documents  First_Dir  Newone  Second_Dir  Third_Dir
user@cdacDBDAA: ~$
```

3. How do you use the "mv" command to rename a file named "oldname.txt" to "newname.txt"?

```
user@cdacDBDAA:~$ cd Dir101
user@cdacDBDAA:~/Dir101$ ls
file.txt
user@cdacDBDAA:~/Dir101$ touch oldname.txt
user@cdacDBDAA:~/Dir101$ ls
file.txt  oldname.txt
user@cdacDBDAA:~/Dir101$ mv oldname.txt newname.txt
user@cdacDBDAA:~/Dir101$ ls
file.txt  newname.txt
user@cdacDBDAA:~/Dir101$
```

4. What does the "pwd" command do in Linux?

```
user@cdacDBDAA:~$ cd Dir101
user@cdacDBDAA:~/Dir101$ pwd
/home/user/Dir101
user@cdacDBDAA:~/Dir101$
```

5. How do you create a new empty file named "newfile.txt" in the current directory using the command line?

```
user@cdacDBDAA:~/Dir101$ touch newfile.txt
user@cdacDBDAA:~/Dir101$ ls
file.txt  newfile.txt  newname.txt
user@cdacDBDAA:~/Dir101$
```

6. How do you rename a file named "oldname.txt" to "newname.txt" using the command line?

```
user@cdacDBDAA:~/Dir101$ rename 's/oldname/new1name/' *.txt
user@cdacDBDAA:~/Dir101$ ls
file.txt  new1name.txt  newfile.txt  newname.txt
user@cdacDBDAA:~/Dir101$
```

7. How do you remove a file named "file.txt" from the current directory using the command line?

```
user@cdacDBDAA:~/Dir101$ rm file.txt
user@cdacDBDAA:~/Dir101$ ls
new1name.txt  newfile.txt  newname.txt
user@cdacDBDAA:~/Dir101$
```

8. Use a command to show the current working directory

```
user@cdacDBDAA:~/Dir101$ rm file.txt
user@cdacDBDAA:~/Dir101$ ls
new1name.txt  newfile.txt  newname.txt
user@cdacDBDAA:~/Dir101$
```

9. List the directory contents in the short and long format

```
user@cdacDBDAA:~/Dir101$ ls
new1name.txt  newfile.txt  newname.txt
user@cdacDBDAA:~/Dir101$ ls -l
total 0
-rw-rw-r-- 1 user user 0 Aug 29 15:40 new1name.txt
-rw-rw-r-- 1 user user 0 Aug 29 15:38 newfile.txt
-rw-rw-r-- 1 user user 0 Aug 29 15:31 newname.txt
user@cdacDBDAA:~/Dir101$
```

10. Explore attributes given in long format e.g. file type, file permissions, file size, file owner etc.

```
user@cdacDBDAA:~$ ls -l
total 76
-rw-rw-r-- 1 user user    0 Aug 29 14:45 11.txt
-rw-rw-r-- 1 user user    0 Aug 29 14:45 12.txt
-rw-rw-r-- 1 user user    0 Aug 29 14:45 13.txt
-rw-rw-r-- 1 user user    0 Aug 29 14:45 1.java
-rw-rw-r-- 1 user user    0 Aug 29 14:45 1.py
-rw-rw-r-- 1 user user    0 Aug 29 14:45 2.py
drwxrwxr-x 2 user user 4096 Aug 29 15:13 backup
drwxrwxr-x 2 user user 4096 Aug 29 11:24 copydir11
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Desktop
drwxrwxr-x 2 user user 4096 Aug 29 15:49 Dir101
drwxrwxr-x 3 user user 4096 Aug 29 11:09 dir11copy
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Documents
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Downloads
-rw-rw-r-- 1 user user    8 Aug 29 12:33 f11.cpp
drwxrwxr-x 5 user user 4096 Aug 29 12:58 First_Dir
drwxrwxr-x 2 user user 4096 Aug 28 17:12 Forth_Dir
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Music
drwxrwxr-x 2 user user 4096 Aug 29 14:54 Newone
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Pictures
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Public
drwxrwxr-x 2 user user 4096 Aug 29 12:25 Second_Dir
drwx----- 4 user user 4096 Aug 25 15:01 snap
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Templates
drwxrwxr-x 3 user user 4096 Aug 29 14:22 Third_Dir
drwxr-xr-x 2 user user 4096 Aug 25 12:58 Videos
user@cdacDBDAA:~$
```

11. List all files along with hidden files in the current working directory.

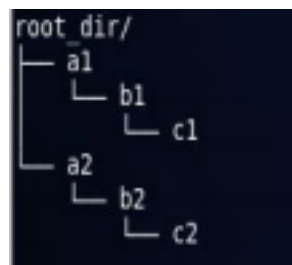
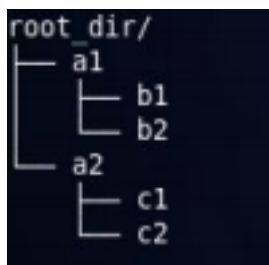
```
user@cdacDBDAA:~/Dir101$ ls -a | grep "^\. "
.
..
user@cdacDBDAA:~/Dir101$
```

```
user@cdacDBDAA:~$ ls -a | grep "^\.\"
.  
..  
.bash_history  
.bash_logout  
.bashrc  
.cache  
.config  
.gnupg  
.local  
.pam_environment  
.profile  
.ssh  
.sudo_as_admin_successful
```

12. list only hidden files in the directory

```
user@cdacDBDAA:~/Dir101$ ls -a  
.  ..  new1name.txt  newfile.txt  newname.txt
```

13. Make a directory and name it as **cdac-dir** and change the current working directory to the new directory.(Hint : use **mkdir,cd** commands). 3. Create following nested directories inside the current directory by invoking a single command for only one time.  
Note : here root\_dir is the current directory.



Directory structure 1   Directory structure 2

```
user@cdacDBDAA:~$ tree /home/user/cdac-dir
/home/user/cdac-dir
```

```
├── a1
│   ├── b1
│   └── b2
└── a2
    ├── c1
    └── c2
```

```
7 directories, 0 files
```

```
user@cdacDBDAA:~$
```

```
user@cdacDBDAA:~$ mkdir root_dir
```

```
user@cdacDBDAA:~$ cd root_dir
```

```
user@cdacDBDAA:~/root_dir$ mkdir -p a1/b1/c1 a2/b2/c2
```

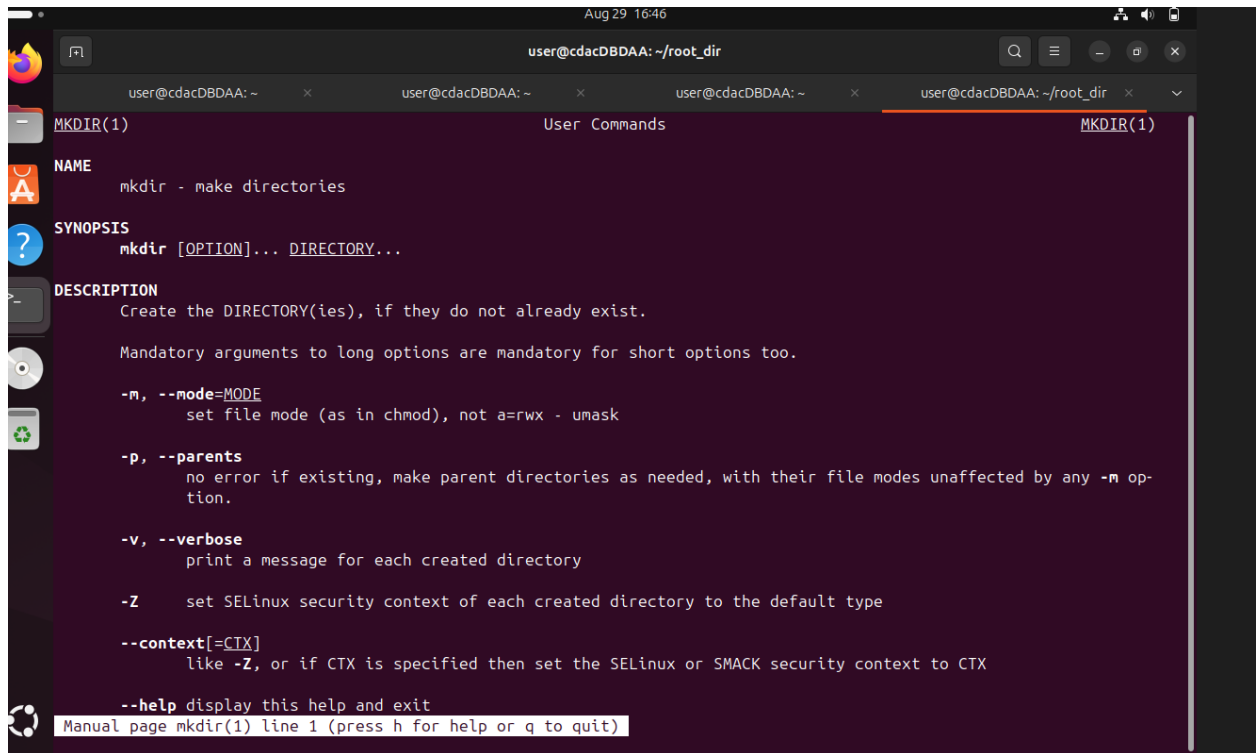
```
user@cdacDBDAA:~/root_dir$ tree
```

```
├── a1
│   ├── b1
│   │   └── c1
└── a2
    ├── b2
    │   └── c2
```

```
7 directories, 0 files
```

```
user@cdacDBDAA:~/root_dir$
```

14. (Hint : explore the man page of **mkdir** ).



The screenshot shows a terminal window with the title bar "Aug 29 16:46" and "user@cdacDBDAA: ~/root\_dir". The terminal displays the man page for the **mkdir** command. The page is titled "MKDIR(1)" and "User Commands". It includes sections for NAME, SYNOPSIS, and DESCRIPTION. The NAME section states "mkdir - make directories". The SYNOPSIS section shows "mkdir [OPTION]... DIRECTORY...". The DESCRIPTION section explains that mkdir creates directories if they do not already exist and lists various options: -m, --mode=MODE, -p, --parents, -v, --verbose, -Z, --context[=CTX], and --help. The terminal also shows a status bar at the bottom: "Manual page mkdir(1) line 1 (press h for help or q to quit)".

```
user@cdacDBDAA: ~/root_dir
MKDIR(1) User Commands MKDIR(1)

NAME
mkdir - make directories

SYNOPSIS
mkdir [OPTION]... DIRECTORY...

DESCRIPTION
Create the DIRECTORY(ies), if they do not already exist.

Mandatory arguments to long options are mandatory for short options too.

-m, --mode=MODE
    set file mode (as in chmod), not a=rwx - umask

-p, --parents
    no error if existing, make parent directories as needed, with their file modes unaffected by any -m option.

-v, --verbose
    print a message for each created directory

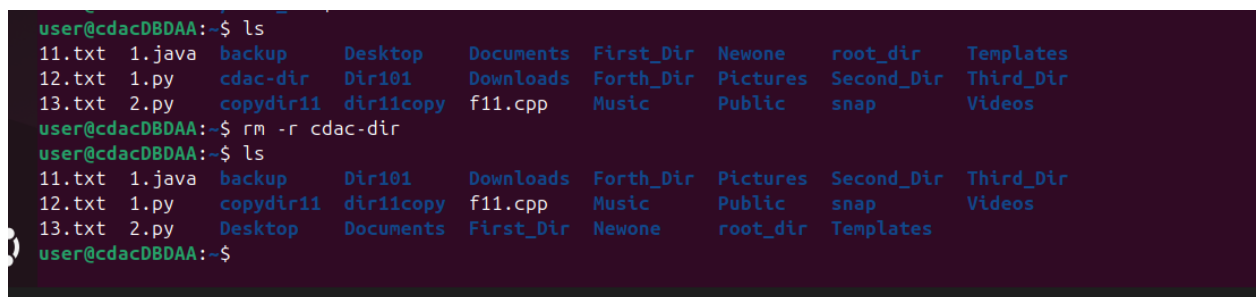
-Z
    set SELinux security context of each created directory to the default type

--context[=CTX]
    like -Z, or if CTX is specified then set the SELinux or SMACK security context to CTX

--help
    display this help and exit

Manual page mkdir(1) line 1 (press h for help or q to quit)
```

15. List the directories(folders), then remove the **cdac-dir** directory and list the folders again to show that it is no longer present.(Hint : use **rm**, **ls** command)



The screenshot shows a terminal window with the title bar "user@cdacDBDAA: ~". The terminal displays the following commands and output:

```
user@cdacDBDAA:~$ ls
11.txt 1.java backup Desktop Documents First_Dir Newone root_dir Templates
12.txt 1.py cdac-dir Dir101 Downloads Forth_Dir Pictures Second_Dir Third_Dir
13.txt 2.py copydir11 dir11copy f11.cpp Music Public snap Videos
user@cdacDBDAA:~$ rm -r cdac-dir
user@cdacDBDAA:~$ ls
11.txt 1.java backup Dir101 Downloads Forth_Dir Pictures Second_Dir Third_Dir
12.txt 1.py copydir11 dir11copy f11.cpp Music Public snap Videos
13.txt 2.py Desktop Documents First_Dir Newone root_dir Templates
user@cdacDBDAA:~$
```

16. Question-2.

17. Display the **man-page** for **ls**, but redirect the output into **temp.txt**, then use the **cat**, **less**, and **more** commands to display the new file.

```
user@cdacDBDAA:~$ man ls>temp.txt
user@cdacDBDAA:~$ cat temp.txt
LS(1)                                User Commands                                LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILES (the current directory by default). Sort entries alphabetically if none of
    -cftuvSUX nor --sort is specified.

    Mandatory arguments to long options are mandatory for short options too.

    -a, --all
        do not ignore entries starting with .

    -A, --almost-all
        do not list implied . and ..

    --author
        with -l, print the author of each file

    -b, --escape
        print C-style escapes for nongraphic characters
```

```
user@cdacDBDAA:~$ less temp.txt

[2]+  Stopped                  less temp.txt
user@cdacDBDAA:~$ more temp.txt
LS(1)                                User Commands                                LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILES (the current directory by default). Sort entries alphabetically if none of
    -cftuvSUX nor --sort is specified.
```



18. Display the initial 10 lines and final 5 lines of **temp.txt** with the obvious Linux commands.(Hint: use **head** and **tail** commands).

```
user@cdacDBDAA:~$ head -n 10 head
head: cannot open 'head' for reading: No such file or directory
user@cdacDBDAA:~$ head -n 10 temp.txt
LS(1)                                User Commands                                LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILES (the current directory by default). Sort entries alphabetically if none of
user@cdacDBDAA:~$ tail -n 5 temp.txt

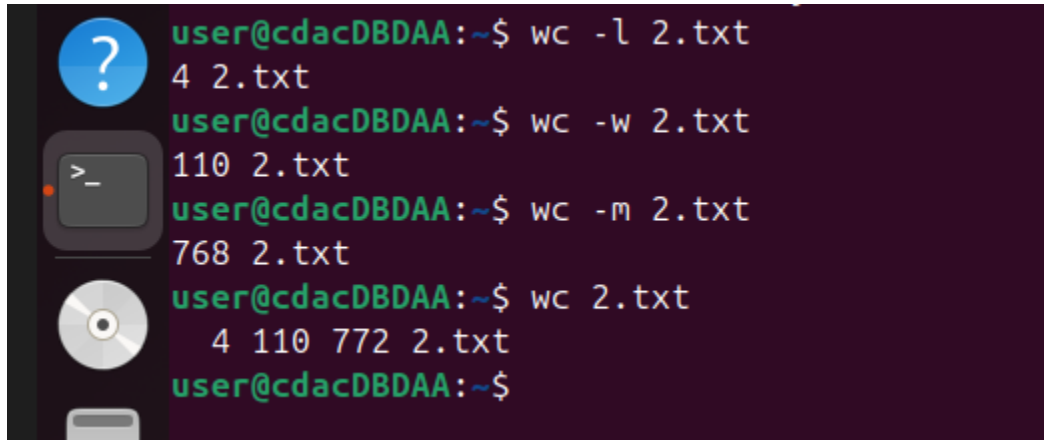
    Full documentation <https://www.gnu.org/software/coreutils/ls>
    or available locally via: info '(coreutils) ls invocation'

GNU coreutils 9.4                                April 2024                                LS(1)
user@cdacDBDAA:~$
```

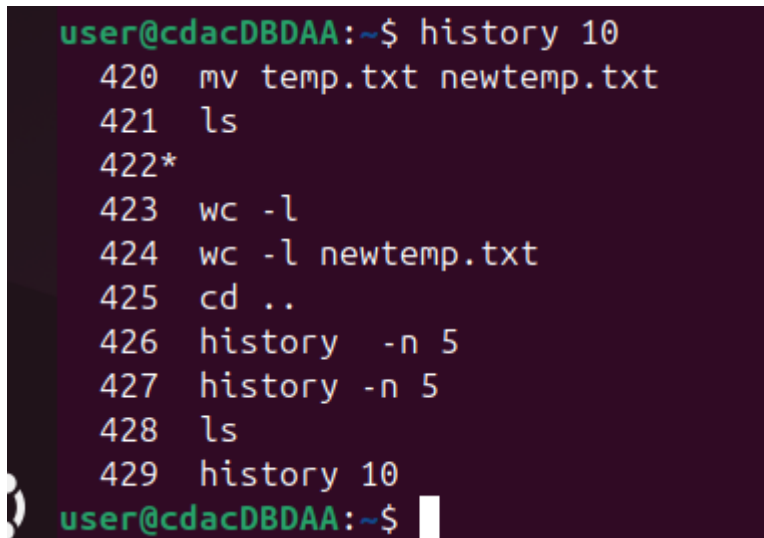
19. Copy **temp.txt** to another directory and rename it there.  
(Hint: use **cp** to copy and **mv** command to rename).

```
user@cdacDBDAA:~$ cp temp.txt /home/user/root_dir
user@cdacDBDAA:~$ cd root_dir
user@cdacDBDAA:~/root_dir$ ls
a1  a2  temp.txt
user@cdacDBDAA:~/root_dir$ mv temp.txt newtemp.txt
user@cdacDBDAA:~/root_dir$ ls
a1  a2  newtemp.txt
user@cdacDBDAA:~/root_dir$
```

20. Display the number of lines, words and characters in file using Linux command (Hint: use **wc** command).

A terminal window with a dark purple background. On the left side, there are four icons: a blue circle with a white question mark, a grey terminal icon with a white prompt character, a grey CD icon, and a grey floppy disk icon. The terminal text shows a user at the prompt 'user@cdacDBDAA:~\$' running the command 'wc -l 2.txt', which outputs '4 2.txt'. Then the user runs 'wc -w 2.txt', outputting '110 2.txt'. Next, the user runs 'wc -m 2.txt', outputting '768 2.txt'. Finally, the user runs 'wc 2.txt', outputting '4 110 772 2.txt'. The prompt returns to 'user@cdacDBDAA:~\$'.

21. Use history command to display the last 10 commands used. (Hint: use **history** command).

A terminal window with a dark purple background. The terminal text shows a user at the prompt 'user@cdacDBDAA:~\$' running the command 'history 10'. The output lists the last 10 commands with their corresponding history IDs: 420 mv temp.txt newtemp.txt, 421 ls, 422\*, 423 wc -l, 424 wc -l newtemp.txt, 425 cd .., 426 history -n 5, 427 history -n 5, 428 ls, and 429 history 10. The prompt returns to 'user@cdacDBDAA:~\$' with a white cursor.

22. Create a tar archive file of any directory present in your home directory. (Hint: use **tar** command)

```
user@cdacDBDAA:~$ ls
11.txt  1.java  backup  Dir101  Downloads  Forth_Dir  Pictures  Second_Dir  temp.txt
12.txt  1.py    copydir11  dir11copy  f11.cpp  Music      Public    snap        Third_Dir
13.txt  2.py    Desktop  Documents  First_Dir  Newone     root_dir  Templates  Videos
user@cdacDBDAA:~$ tar -cvf archive.tar Newone
Newone/
Newone/file.txt
user@cdacDBDAA:~$ ls
11.txt  1.java  archive.tar  Desktop  Documents  First_Dir  Newone  root_dir  Templates  Videos
12.txt  1.py    backup      Dir101   Downloads  Forth_Dir  Pictures  Second_Dir  temp.txt
13.txt  2.py    copydir11   dir11copy  f11.cpp   Music      Public    snap        Third_Dir
user@cdacDBDAA:~$
```

23. Create a zip file of another directory. (Hint: use **zip** command) - list the contents of the zip file without extracting.

```
13.txt  2.py    copydir11  dir11copy  f11.cpp  Music      Public    snap        Third_Dir
user@cdacDBDAA:~$ zip -r newzip.zip /home/user/f11.cpp
adding: home/user/f11.cpp (stored 0%)
user@cdacDBDAA:~$ ls
11.txt  1.java  archive.tar  Desktop  Documents  First_Dir  Newone  Public    snap        Third_Dir
12.txt  1.py    backup      Dir101   Downloads  Forth_Dir  newzip.zip  root_dir  Templates  Videos
13.txt  2.py    copydir11   dir11copy  f11.cpp   Music      Pictures  Second_Dir  temp.txt
user@cdacDBDAA:~$ zip -r newzip.zip Forth_Dir
adding: Forth_Dir/ (stored 0%)
user@cdacDBDAA:~$ ls
11.txt  1.java  archive.tar  Desktop  Documents  First_Dir  Newone  Public    snap        Third_Dir
12.txt  1.py    backup      Dir101   Downloads  Forth_Dir  newzip.zip  root_dir  Templates  Videos
13.txt  2.py    copydir11   dir11copy  f11.cpp   Music      Pictures  Second_Dir  temp.txt
user@cdacDBDAA:~$ zip -sf newzip.zip
Archive contains:
  home/user/f11.cpp
  Forth_Dir/
Total 2 entries (8 bytes)
user@cdacDBDAA:~$
```

24. Give read, write & execute permissions to your file. (Hint: use **chmod** command)

```
user@cdacDBDAA:~$ ls -l f11.cpp
-rwxrwxrwx 1 user user 8 Aug 29 12:33 f11.cpp
user@cdacDBDAA:~$ ls -l temp.txt
-rw-rw-r-- 1 user user 8135 Aug 29 16:51 temp.txt
user@cdacDBDAA:~$ chmod a+rwx temp.txt
user@cdacDBDAA:~$ ls -l temp.txt
-rwxrwxrwx 1 user user 8135 Aug 29 16:51 temp.txt
user@cdacDBDAA:~$
```

25. Change ownership of that file.(Hint: use **chown** command)

```
user@cdacDBDAA:~$ ls -l 2.txt
-rw-rw-r-- 1 user user 772 Aug 29 18:02 2.txt
user@cdacDBDAA:~$ chmod a+rwx 2.txt
user@cdacDBDAA:~$ ls -l 2.txt
-rwxrwxrwx 1 user user 772 Aug 29 18:02 2.txt
user@cdacDBDAA:~$
```

26. List processes running in shell, all running processes(**Hint**: use man page of **ps** command) and show top processes in decreasing order of their resource utilization.(**Hint**: use **top** command).

```

user@cdacDBDAA:~$ ps
  PID TTY          TIME CMD
 79280 pts/0        00:00:00 bash
 79377 pts/0        00:00:00 top
 79395 pts/0        00:00:00 ps
user@cdacDBDAA:~$ ps -e
  PID TTY          TIME CMD
    1 ?            00:00:02 systemd
    2 ?            00:00:00 kthreadd
    3 ?            00:00:00 pool_workqueue_release
    4 ?            00:00:00 kworker/R-rcu_gp
    5 ?            00:00:00 kworker/R-sync_wq
    6 ?            00:00:00 kworker/R-kvfree_rcu_reclaim
    7 ?            00:00:00 kworker/R-slub_flushwq
    8 ?            00:00:00 kworker/R-netns
   12 ?            00:00:00 kworker/u8:0-ipv6_addrconf
   13 ?            00:00:00 kworker/R-mm_percpu_wq
   14 ?            00:00:00 rcu_tasks_kthread
   15 ?            00:00:00 rcu_tasks_rude_kthread
   16 ?            00:00:00 rcu_tasks_trace_kthread
   17 ?            00:00:04 ksoftirqd/0
   18 ?            00:01:12 rcu_preempt
   19 ?            00:00:00 rcu_exp_par_gp_kthread_worker/0
   20 ?            00:00:00 rcu_exp_gp_kthread_worker
   21 ?            00:00:02 migration/0
   22 ?            00:00:00 idle_inject/0
   23 ?            00:00:00 cpuhp/0
   24 ?            00:00:00 cpuhp/1
   25 ?            00:00:00 idle_inject/1
   26 ?            00:00:02 migration/1
   27 ?            00:00:00 kworker/u8:0-ipv6_addrconf
user@cdacDBDAA:~$ ps -e | head -n 10
  PID TTY          TIME CMD
    1 ?            00:00:02 systemd
    2 ?            00:00:00 kthreadd
    3 ?            00:00:00 pool_workqueue_release
    4 ?            00:00:00 kworker/R-rcu_gp
    5 ?            00:00:00 kworker/R-sync_wq
    6 ?            00:00:00 kworker/R-kvfree_rcu_reclaim
    7 ?            00:00:00 kworker/R-slub_flushwq
    8 ?            00:00:00 kworker/R-netns
   12 ?            00:00:00 kworker/u8:0-ipv6_addrconf
user@cdacDBDAA:~$ ps -aux | head -n 10
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.7  23160 14112 ?        Ss   21:12   0:02 /sbin/init splash
root         2  0.0  0.0   0     0 ?        S    21:12   0:00 [kthreadd]
root         3  0.0  0.0   0     0 ?        S    21:12   0:00 [pool_workqueue_release]
root         4  0.0  0.0   0     0 ?        I<   21:12   0:00 [kworker/R-rcu_gp]
root         5  0.0  0.0   0     0 ?        I<   21:12   0:00 [kworker/R-sync_wq]
root         6  0.0  0.0   0     0 ?        I<   21:12   0:00 [kworker/R-kvfree_rcu_reclaim]
root         7  0.0  0.0   0     0 ?        I<   21:12   0:00 [kworker/R-slub_flushwq]
root         8  0.0  0.0   0     0 ?        I<   21:12   0:00 [kworker/R-netns]
root        12  0.0  0.0   0     0 ?        I    21:12   0:00 [kworker/u8:0-ipv6_addrconf]
user@cdacDBDAA:~$

```

27. Display current time and calendar (**Hint**: use **date**, **cal** commands) 2. Change the current date and time of the system to following 14th March 2024, 10:10 AM

```
user@cdacDBDAA:~$ date -u '+%d,%B,%A %H:%m:%S'
14,March,Thursday 04:03:01
user@cdacDBDAA:~$ sudo date --set="14 March 2024 10:10 AM"
Thu Mar 14 10:10:00 AM IST 2024
user@cdacDBDAA:~$ sudo date 0314101024
Thu Mar 14 10:10:00 AM IST 2024
user@cdacDBDAA:~$
```

28. Explore following commands  
29. who, whoami, whatis, whereis, (**Hint**: use man pages).

```
user@cdacDBDAA:~$ whoami
user
user@cdacDBDAA:~$ whatis ls
ls (1)                - list directory contents
user@cdacDBDAA:~$ whereis ls
ls: /usr/bin/ls /usr/share/man/man1/ls.1.gz
user@cdacDBDAA:~$
```

30. Create one directory named linux. cd to that directory and create one file named **testperms.txt**. Check the permissions of that file. Check the value of **umask**. Change the value of umask and create one new file **newtestperms.txt** and check its permissions. Note down the difference.(Hint: use **umask**, **ls** command )

```
user@cdacDBDAA:~$ mkdir linux
user@cdacDBDAA:~$ cd linux
user@cdacDBDAA:~/linux$ touch testperms.txt
user@cdacDBDAA:~/linux$ ls -l testperms.txt
-rw-rw-r-- 1 user user 0 Mar 14 10:50 testperms.txt
user@cdacDBDAA:~/linux$ chmod a+rwx testperms.txt
user@cdacDBDAA:~/linux$ ls -l testperms.txt
-rwxrwxrwx 1 user user 0 Mar 14 10:50 testperms.txt
user@cdacDBDAA:~/linux$ umask
0002
user@cdacDBDAA:~/linux$ umask 777
user@cdacDBDAA:~/linux$ touch newtestperms.txt
user@cdacDBDAA:~/linux$ ls -l newtestperms.txt
----- 1 user user 0 Mar 14 11:06 newtestperms.txt
user@cdacDBDAA:~/linux$ chmod a+rwx newtestperms.txt
user@cdacDBDAA:~/linux$ ls -l newtestperms.txt
-rwxrwxrwx 1 user user 0 Mar 14 11:06 newtestperms.txt
user@cdacDBDAA:~/linux$
```

31. Create a file and name it as file1.txt and create a hardlink to this file. (Hint: use **ln** command).

```
user@cdacDBDAA:~$ touch file1.txt
user@cdacDBDAA:~$ ln file1.txt hardfile1.txt
user@cdacDBDAA:~$ ls
11.txt  1.py  archive.tar  Dir101  f11.cpp  hardfile1.txt  newzip.zip  root_dir  Templates  Videos
12.txt  1.txt  backup      dir11copy  file1.txt  linux         num_sort.txt  Second_Dir  temp.txt
13.txt  2.py  copydir11   Documents  First_Dir  Music        Pictures     snap       testperms.txt
1.java  2.txt  Desktop    Downloads  Forth_Dir  Newone       Public      sort_ex.txt  Third_Dir
user@cdacDBDAA:~$
```

32. Create a file and name it as file2.txt and create a softlink to this file. (Hint: use **ln** command).

```

user@cdacDBDAA:~$ touch file2.txt
user@cdacDBDAA:~$ ls
11.txt  1.txt  4.sh      Dir101  file1.txt  hardlink1.txt  Newone  root_dir  Templates
13.txt  2.py   archive.tar dir11copy file2.txt  hardlink.txt  newzip.zip Second_Dir temp.txt
1.java  2.sh   backup     Documents First_Dir  linux         num_sort.txt snap      testperms.txt
1.py    2.txt  copydir11  Downloads Forth_Dir  Music        Pictures     softlink.txt Third_Dir
1.sh    3.sh   Desktop    f11.cpp  hardfile1.txt mydir        Public      sort_ex.txt Videos
user@cdacDBDAA:~$ ln -s file2.txt softfile2.txt
user@cdacDBDAA:~$ ls
11.txt  1.txt  4.sh      Dir101  file1.txt  hardlink1.txt  Newone  root_dir  sort_ex.txt  Videos
13.txt  2.py   archive.tar dir11copy file2.txt  hardlink.txt  newzip.zip Second_Dir  Templates
1.java  2.sh   backup     Documents First_Dir  linux         num_sort.txt snap      temp.txt
1.py    2.txt  copydir11  Downloads Forth_Dir  Music        Pictures     softfile2.txt testperms.txt
1.sh    3.sh   Desktop    f11.cpp  hardfile1.txt mydir        Public      softlink.txt Third_Dir
user@cdacDBDAA:~$

```

Hard Link	Soft link
Hard line with being a link.	Soft link is a link which indicates path to its parent file.
Since it is a file by itself, if parent file is deleted, child file remains as it was previously.	Since its a path, if parent file is deleted, child doesn't point tp proper path and becomes a zombie file.
Can be used for creating backup files.	Can be used as a shortcut.
Syntax is: In parentfile.ext childfile.ext	Syntax is: In -s parentfile.ext Q childfile.ext (here, -s indicates soft link)

33. Use **ssh** to connect to your friend's shell by specifying **port number** in the **ssh** command. use **exit** command to come out of your friends shell. (Hint: use **ssh** command)

```

[1]+  Stopped                  scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.19:/home/user/Desktop
user@192.168.5.19's password:
dbda25_rmn3.sh                                100%  0    0.0KB/s   00:00
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/dir11
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.45:/home/user/dir11
ssh: connect to host 192.168.5.45 port 22: No route to host
scp: Connection closed
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.45:/home/user/dir11
ssh: connect to host 192.168.5.45 port 22: No route to host
scp: Connection closed
Ayu@cdac1:~$ exit
logout
There are stopped jobs.
Ayu@cdac1:~$

```



34. Use **scp** using your friend's credentials to copy a file into a directory **owned by your friend**, inside his home directory, specify port number in **scp** command.

```
Last login: Tue Sep  2 15:28:33 2025 from 192.168.5.45
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.45:/home/user/Desktop
ssh: connect to host 192.168.5.45 port 22: No route to host
scp: Connection closed
Ayu@cdac1:~$ ls
abc.txt          copyhardlink.txt  Documents         Pictures          Templates
archive.tar      dbda25            documents_backup.tar.gz  pqr.txt          temp.txt
Assignment1      dbda25_rmn3.sh    Downloads         projects         unique.txt
Assignment2      dbda25_rmn1.sh    linux            Public           Videos
Assignmet1       dbda25_rmn2.sh    ln_soft.txt       report.pdf       vivocopy
ayu2             dbdaaug25         manuals          shell
backup           Desktop           Music            snap
cdac1-dir        desktop.zip        newtextfile.txt   soft.txt
cdac-dir         dir11             newzip.zip        sort_ex.txt
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/Desktop
The authenticity of host '192.168.4.246 (192.168.4.246)' can't be established.
ED25519 key fingerprint is SHA256:xk0WZCvptGJMYoE7cNxJrAHFwSILpaNnv2FS4A/H48c.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.4.246' (ED25519) to the list of known hosts.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:

[1]+  Stopped                  scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/Desktop
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.19:/home/user/Desktop
user@192.168.5.19's password:
dbda25_rmn3.sh                               100%   0    0.0KB/s   00:00
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/dir11
user@192.168.4.246's password:
```

35. Use **scp** using your friend's credentials to copy **directory** into a directory **owned by you**, inside your home directory, specify port number in **scp** command

```

Last login: Tue Sep  2 15:28:33 2025 from 192.168.5.45
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.45:/home/user/Desktop
ssh: connect to host 192.168.5.45 port 22: No route to host
scp: Connection closed
Ayu@cdac1:~$ ls
abc.txt      copyhardlink.txt  Documents      Pictures      Templates
archive.tar  dbda25            documents_backup.tar.gz  pqr.txt      temp.txt
Assignment1  dbda25_rmn3.sh    Downloads      projects      unique.txt
Assignment2  dbda25_rmn1.sh    linux          Public        Videos
Assignmet1   dbda25_rmn2.sh    ln_soft.txt    report.pdf    vivocopy
ayu2         dbdaaug25         manuals        shell
backup       Desktop          Music          snap
cdac1-dir    desktop.zip       newtextfile.txt  soft.txt
cdac-dir     dir11            newzip.zip      sort_ex.txt
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/Desktop
The authenticity of host '192.168.4.246 (192.168.4.246)' can't be established.
ED25519 key fingerprint is SHA256:xk0WZCvptGJMYoE7cNxJrAHFwSILpaNnv2FS4A/H48c.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.4.246' (ED25519) to the list of known hosts.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:

[1]+  Stopped                  scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/Desktop
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.19:/home/user/Desktop
user@192.168.5.19's password:
dbda25_rmn3.sh                                100%   0    0.0KB/s   00:00
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/dir11
user@192.168.4.246's password:

```

36. Use **scp** using your friend's credentials to copy **directory** into a directory **owned by you**, inside your home directory, specify port number in **scp** command

```
cdac-dir  dir11  newzip.zip  sort_ex.txt
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/home/user/Desktop
The authenticity of host '192.168.4.246 (192.168.4.246)' can't be established.
ED25519 key fingerprint is SHA256:xk0WZCvptGJMYoE7cNxJrAHFwSIlpaNnv2FS4A/H48c.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.4.246' (ED25519) to the list of known hosts.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:
Permission denied, please try again.
user@192.168.4.246's password:
[1]+  Stopped                  scp /home/Ayu/dbda25_rmn3.sh user@192.168.4.246:/h
ome/user/Desktop
Ayu@cdac1:~$ scp /home/Ayu/dbda25_rmn3.sh user@192.168.5.19:/home/user/Desktop
user@192.168.5.19's password:
dbda25_rmn3.sh                                100%   0   0.0KB/s   00:00
Ayu@cdac1:~$
```

37. Connect to any publicly available **ftp** server from the terminal and try to download, upload and delete files. If you get error in any process (connect, upload, download or delete), justify the reasons behind them.(Hint: use **ftp** command) Example:

Try to access **ftp.netbsd.org**

username : **anonymous**

password : **anonymous**

38. How do you remove a directory named "mydir" and all of its contents using the command line?

```
user@cdacDBDAA:~$ ls
11.txt  1.py  archive.tar  Dir101  f11.cpp  hardfile1.txt  Newone  Public  sort_ex.txt  Third_Dir
12.txt  1.txt  backup      dir11copy  file1.txt  linux          newzip.zip  root_dir  Templates  Videos
13.txt  2.py  copydir11   Documents  First_Dir  Music          num_sort.txt  Second_Dir  temp.txt
1.java  2.txt  Desktop     Downloads  Forth_Dir  mydir          Pictures     snap      testperms.txt
user@cdacDBDAA:~$ rm -r mydir
user@cdacDBDAA:~$ ls
11.txt  1.py  archive.tar  Dir101  f11.cpp  hardfile1.txt  newzip.zip  root_dir  Templates  Videos
12.txt  1.txt  backup      dir11copy  file1.txt  linux          num_sort.txt  Second_Dir  temp.txt
13.txt  2.py  copydir11   Documents  First_Dir  Music          Pictures     snap      testperms.txt
1.java  2.txt  Desktop     Downloads  Forth_Dir  Newone        Public      sort_ex.txt  Third_Dir
```

39. How do you use the "ls" command to list all files and directories in the current directory?

```
user@cdacDBDAA:~$ cd First_Dir
user@cdacDBDAA:~/First_Dir$ ls
abc.java  dir11      ex1.java  ex1.sh    f1.cpp    f1.py     f1.txt    xyz.java
cp.txt    dir11copy  ex1.py    example   f1.java   f1.sh     og.txt
```

40. How do you create a new file named "myfile.txt" in the directory "/home/user/documents" using the command line?

```
user@cdacDBDAA:~/First_Dir$ cd ..
user@cdacDBDAA:~$ cd Documents
user@cdacDBDAA:~/Documents$ touch myfile.txt
user@cdacDBDAA:~/Documents$ ls
myfile.txt
user@cdacDBDAA:~/Documents$
```

41. How do you use the "grep" command to search for a specific word or phrase in multiple files at once?

```

user@cdacDBDAA:~$ grep "is" 1.txt 2.txt 13.txt
1.txt:Dalit History Month - Remembering Dr. Babasaheb Ambedkar | Dr ...
1.txt:Bhimrao Ranji Ambedkar (1891-1956), also known as Babasaheb, was a Dalit Indian jurist, economist, politician, and
social reformer who fought against caste discrimination, leading the Dalit Buddhist Movement and helping to draft the C
onstitution of India. Born into an "untouchable" Mahar family, he faced severe social discrimination but pursued higher
education, earning doctorates in economics from Columbia and London Universities. He championed Dalit rights, founded pe
riodicals, led significant protests like the Mahad Satyagraha, and initiated mass conversions to Buddhism for Dalits in
1956. He served as India's first Law Minister and became the chief architect of the Indian Constitution.
2.txt:Bhimrao Ranji Ambedkar (1891-1956), also known as Babasaheb, was a Dalit Indian jurist, economist, politician, and
social reformer who fought against caste discrimination, leading the Dalit Buddhist Movement and helping to draft the C
onstitution of India. Born into an "untouchable" Mahar family, he faced severe social discrimination but pursued higher
education, earning doctorates in economics from Columbia and London Universities. He championed Dalit rights, founded pe
riodicals, led significant protests like the Mahad Satyagraha, and initiated mass conversions to Buddhism for Dalits in
1956. He served as India's first Law Minister and became the chief architect of the Indian Constitution.
13.txt:echo("Born on 15th October 1931 at Rameswaram in Tamil Nadu, Dr. Avul Pakir Jainulabdeen Abdul Kalam, specialized
in Aeronautical Engineering from Madras Institute of Technology. Dr. Kalam made significant contribution as Project Dir
ector to develop India's first indigenous Satellite Launch Vehicle (SLV-III) which successfully injected the Rohini satel
lite in the near earth orbit in July 1980 and made India an exclusive member of Space Club. He was responsible for the
evolution of ISRO's launch vehicle programme, particularly the PSLV configuration. After working for two decades in ISRO
and mastering launch vehicle technologies, Dr. Kalam took up the responsibility of developing Indigenous Guided Missile
s at Defence Research and Development Organisation as the Chief Executive of Integrated Guided Missile Development Progr
amme (IGMDP). He was responsible for the development and operationalisation of AGNI and PRITHVI Missiles and for buildin
g indigenous capability in critical technologies through networking of multiple institutions. He was the Scientific Advi
ser to Defence Minister and Secretary, Department of Defence Research & Development from July 1992 to December 1999. Dur
ing this period he led to the weaponisation of strategic missile systems and the Pokhran-II nuclear tests in collaborati
on with Department of Atomic Energy, which made India a nuclear weapon State. He also gave thrust to self-reliance in de
fence systems by progressing multiple development tasks and mission projects such as Light Combat Aircraft.

```

```

user@cdacDBDAA:~$ grep "is" *.txt
13.txt:echo("Born on 15th October 1931 at Rameswaram in Tamil Nadu, Dr. Avul Pakir Jainulabdeen Abdul Kalam, speciali
in Aeronautical Engineering from Madras Institute of Technology. Dr. Kalam made significant contribution as Project
ector to develop India's first indigenous Satellite Launch Vehicle (SLV-III) which successfully injected the Rohini s
llite in the near earth orbit in July 1980 and made India an exclusive member of Space Club. He was responsible for t
evolution of ISRO's launch vehicle programme, particularly the PSLV configuration. After working for two decades in I
and mastering launch vehicle technologies, Dr. Kalam took up the responsibility of developing Indigenous Guided Miss
s at Defence Research and Development Organisation as the Chief Executive of Integrated Guided Missile Development Pr
amme (IGMDP). He was responsible for the development and operationalisation of AGNI and PRITHVI Missiles and for buil
g indigenous capability in critical technologies through networking of multiple institutions. He was the Scientific A
ser to Defence Minister and Secretary, Department of Defence Research & Development from July 1992 to December 1999.
ing this period he led to the weaponisation of strategic missile systems and the Pokhran-II nuclear tests in collabor
on with Department of Atomic Energy, which made India a nuclear weapon State. He also gave thrust to self-reliance in
fence systems by progressing multiple development tasks and mission projects such as Light Combat Aircraft.
13.txt:As Chairman of Technology Information, Forecasting and Assessment Council (TIFAC) and as an eminent scienti
h the help of 500 experts to arrive at Technology Vision 2020 giving a road map for transforming India from the prese
developing status to a developed nation. Dr. Kalam has served as the Principal Scientific Advisor to the Government o
ndia, in the rank of Cabinet Minister, from November 1999 to November 2001 and was responsible for evolving policies,
rategies and missions for many development applications. Dr. Kalam was also the Chairman, Ex-officio, of the Scientif
Advisory Committee to the Cabinet (SAC-C) and piloted India Millennium Mission 2020.
13.txt:Dr. Kalam took up academic pursuit as Professor, Technology & Societal Transformation at Anna University, Chen
from November 2001 and was involved in teaching and research tasks. Above all he took up a mission to ignite the you
minds for national development by meeting high school students across the country.
13.txt:In his literary pursuit four of Dr. Kalam's books - "Wings of Fire", "India 2020 - A Vision for the New Millen
m", "My journey" and "Ignited Minds - Unleashing the power within India" have become household names in India and amo
the Indian nationals abroad. These books have been translated in many Indian languages.
13.txt:Born on 15th October 1931 at Rameswaram in Tamil Nadu, Dr. Avul Pakir Jainulabdeen Abdul Kalam, specialized in
ronautical Engineering from Madras Institute of Technology. Dr. Kalam made significant contribution as Project Direct
to develop India's first indigenous Satellite Launch Vehicle (SLV-III) which successfully injected the Rohini satell
in the near earth orbit in July 1980 and made India an exclusive member of Space Club. He was responsible for the evo
ion of ISRO's launch vehicle programme, particularly the PSLV configuration. After working for two decades in ISRO an

```

42. How do you create a new directory named "mydir" and set its permissions to read, write, and execute for the owner and read and execute for everyone else?

```
user@cdacDBDAA:~$ chmod 755 mydir
user@cdacDBDAA:~$ ls -ld mydir
drwxr-xr-x 2 user user 4096 Aug 31 20:40 mydir
user@cdacDBDAA:~$
```

43. How do you use the "tar" command to create a compressed archive of all files in the current directory and its subdirectories?

```
user@cdacDBDAA:~$ cd Third_Dir
user@cdacDBDAA:~/Third_Dir$ ls
ex1.py  example
user@cdacDBDAA:~/Third_Dir$ tar -czvf archi.tar.gz .
./
./ex1.py
./example/
./example/dbda1.sh
./example/dbda2.sh
./example/dbda3.sh
./example/.3.txt
tar: .: file changed as we read it
user@cdacDBDAA:~/Third_Dir$ ls
archi.tar.gz ex1.py  example
user@cdacDBDAA:~/Third_Dir$
```

44. How do you use the "chmod" command to give read and write permissions to the owner and group for a file named "file.txt"?

```
user@cdacDBDAA:~$ chmod 660 file1.txt
user@cdacDBDAA:~$ ls -ld file1.txt
-rw-rw---- 2 user user 0 Mar 14 2024 file1.txt
user@cdacDBDAA:~$
```

45. How do you find the size of a file named "file.txt" in bytes, kilobytes, and megabytes using the command line?

```
-rw-rw---- 2 user user 1M Sep 3 17:31 file1.txt
user@cdacDBDAA:~$ ls -lh file1.txt
-rw-rw---- 2 user user 71 Sep 3 17:31 file1.txt
user@cdacDBDAA:~$ ls -lh --b=K file1.txt
-rw-rw---- 2 user user 1K Sep 3 17:31 file1.txt
user@cdacDBDAA:~$ ls -lh --b=M file1.txt
-rw-rw---- 2 user user 1M Sep 3 17:31 file1.txt
user@cdacDBDAA:~$
```

46. How do you use the "awk" command to extract a specific column from a comma-separated value (CSV) file and sort it in reverse order?



```

user@cdacDBDAA:~$ awk -F 101.txt | sort -r
Usage: awk [POSIX or GNU style options] -f progfile [--] file ...
Usage: awk [POSIX or GNU style options] [--] 'program' file ...
POSIX options:          GNU long options: (standard)
    -f progfile          --file=progfile
    -F fs                --field-separator=fs
    -v var=val           --assign=var=val
Short options:          GNU long options: (extensions)
    -b                   --characters-as-bytes
    -c                   --traditional
    -C                   --copyright
    -d[file]             --dump-variables[=file]
    -D[file]             --debug[=file]
    -e 'program-text'    --source='program-text'
    -E file              --exec=file
    -g                   --gen-pot
    -h                   --help
    -i includefile       --include=includefile
    -I                   --trace
    -l library           --load=library
    -L[fatal|invalid|no-ext] --lint[=fatal|invalid|no-ext]
    -M                   --bignum
    -N                   --use-lc-numeric
    -n                   --non-decimal-data
    -o[file]             --pretty-print[=file]
    -O                   --optimize

```

47. How do you use the "sed" command to replace all occurrences of a word or phrase in a file with a different word or phrase?

```

user@cdacDBDAA:~$ nano 101.txt
user@cdacDBDAA:~$ bash 101.txt
Deloitte is a global professional services firm offering audit, consulting, tax, and advisory services. As one of the Big Four accounting firms, it is the largest professional services network worldwide by revenue and employee numbers, with a workforce of approximately 460,000 people operating in over 150 countries. The company is structured as a network of independent member firms under a global umbrella, known as Deloitte Touche Tohmatsu Limited (DTTL).
user@cdacDBDAA:~$ sed 's/is/ISS/' 101.txt
echo "Deloitte ISS a global professional services firm offering audit, consulting, tax, and advisory services. As one of the Big Four accounting firms, it is the largest professional services network worldwide by revenue and employee numbers, with a workforce of approximately 460,000 people operating in over 150 countries. The company is structured as a network of independent member firms under a global umbrella, known as Deloitte Touche Tohmatsu Limited (DTTL)."
```



```

user@cdacDBDAA:~$ sed -i 's/as/THEE/g' 1.txt
user@cdacDBDAA:~$ cat 1.txt

Dalit HTHEsssstory Month - Remembering Dr. BabTHEEaheb Ambedkar | Dr ...
Bhimrao Ramji Ambedkar (1891-1956), also known THEE BabTHEEaheb, wTHEE a Dalit Indian jurTHEsssst, economTHEsssst, pol
itician, and social reformer who fought against cTHEEte dTHEssssscrimination, leading the Dalit BuddhTHEsssst Movement
and helping to draft the Constitution of India. Born into an "untouchable" Mahar family, he faced severe social dTHEssss
scrimination but pursued higher education, earning doctorates in economics from Columbia and London Universities. He cha
mpioned Dalit rights, founded periodicals, led significant protests like the Mahad Satyagraha, and initiated mTHEES conv
ersions to BuddhTHEssssm for Dalits in 1956. He served THEE India's first Law MinTHEssssster and became the chief archi
tect of the Indian Constitution.

```

48. How do you use the "find" command to search for all files in a directory and its subdirectories that were modified within the last 24 hours?

```

user@cdacDBDAA:~$ find /home/user -type f -mtime 1
/home/user/.config/enchant/en_US.exc
/home/user/.config/enchant/en_US.dic
/home/user/.local/share/org.gnome.TextEditor/session.gvariant
/home/user/.local/share/org.gnome.TextEditor/recently-used.xbel
/home/user/.local/share/recently-used.xbel
/home/user/.bash_history
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/datareporting/archived/2025-08/1756543377354.706ef3ff-d
cae-430f-8277-a0bfd916def.event.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/datareporting/archived/2025-08/1756550202625.e9b9189d-7
eda-4ea7-93a6-32426f90b44e.event.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/datareporting/archived/2025-08/1756483661655.1fee162a-a
17e-44ab-95db-50c1e9124dd4.event.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/datareporting/archived/2025-08/1756483661661.50f26e3c-6
227-4582-971b-b9f3cc7af997.main.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/datareporting/archived/2025-08/1756550202632.46b6e225-f
74f-4f84-8599-b6741f1e97d5.main.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/sessionstore-backups/previous.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/sessionstore-backups/upgrade.jsonlz4-20250828192042
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/search.json.mozlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/xulstore.json
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/security_state/20250830-0-default.filter.delta
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/security_state/20250829-1-default.filter.delta
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/bookmarkbackups/bookmarks-2025-08-30_Ec2UPmAGrXDdIQN
ENscepJRG5Hmzt6vMwM4nNdyvJk8=.jsonlz4
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.
files/25
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.
files/193
/home/user/snap/firefox/common/.mozilla/firefox/usz8a5dq.default/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.
files/193

```

49. How do you use the "diff" command to compare two files and show only the lines that are different between them?

```

user@cdacDBDAA:~$ diff -u 11.txt 101.txt
--- 11.txt      2025-08-29 14:45:01.785461957 +0530
+++ 101.txt     2025-09-03 16:53:46.899242628 +0530
@@ -0,0 +1 @@
+CDAC DBDA MUMBAI, INDIA
user@cdacDBDAA:~$

```

50. How do you use the "rsync" command to synchronize the contents of two directories, including all subdirectories and files, while preserving file permissions and ownerships?

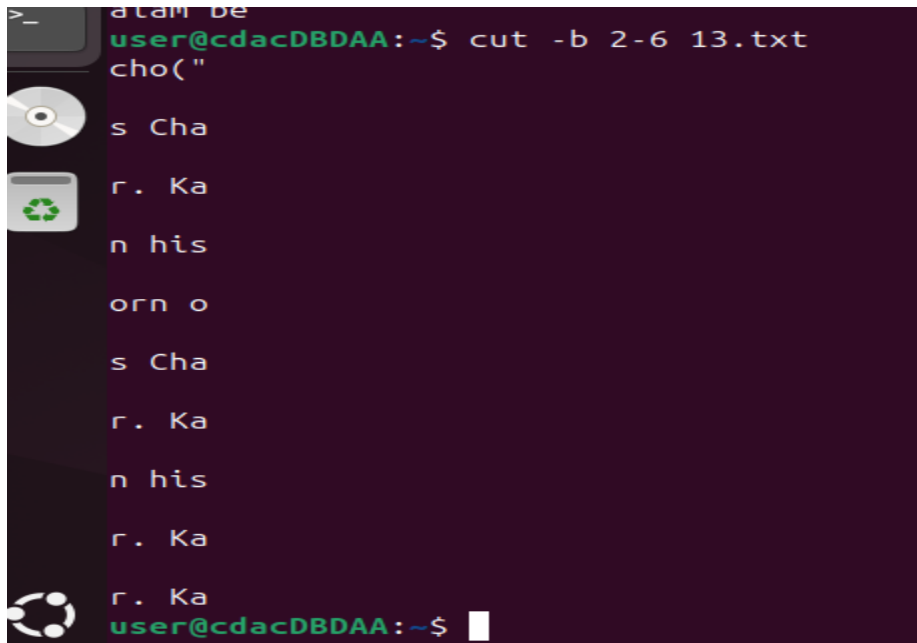
```
user@cdacDBDAA:~$ rsync -av /home/user/Forth_Dir/ /home/user/Third_Dir/
sending incremental file list
./
41.txt

sent 189 bytes  received 38 bytes  454.00 bytes/sec
total size is 65  speedup is 0.29
user@cdacDBDAA:~$
```

51. How do you use the "cut" command to extract a specific range of characters or bytes from a file?

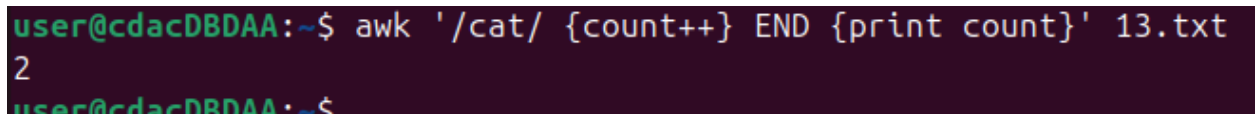
```
user@cdacDBDAA:~$ cut -c 6-12 13.txt
"Born o
airman
alam to
s liter
on 15th
airman
alam to
s liter
alam is
alam be
user@cdacDBDAA:~$
```

52. How do you use the "tar" command to extract a specific file or directory from a compressed archive without extracting the entire archive?

A terminal window with a dark purple background. The prompt is 'user@cdacDBDAA:~\$'. The command 'cut -b 2-6 13.txt' has been entered. The output shows the first six characters of each line in the file 13.txt: 's Cha', 'r. Ka', 'n his', 'orn o', 's Cha', 'r. Ka', 'n his', 'r. Ka', and 'r. Ka'. On the left side of the terminal, there are three icons: a CD-ROM, a trash can, and a circular arrow.

```
>_ atam be
user@cdacDBDAA:~$ cut -b 2-6 13.txt
cho(
s Cha
r. Ka
n his
orn o
s Cha
r. Ka
n his
r. Ka
r. Ka
user@cdacDBDAA:~$
```

53. How do you use the "awk" command to count the number of occurrences of a specific word or phrase in a file?

A terminal window with a dark purple background. The prompt is 'user@cdacDBDAA:~\$'. The command 'awk '/cat/ {count++} END {print count}' 13.txt' has been entered. The output is the number '2'.

```
user@cdacDBDAA:~$ awk '/cat/ {count++} END {print count}' 13.txt
2
user@cdacDBDAA:~$
```