CDAC MUMBAI

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Concepts of Operating System

Assignment 2

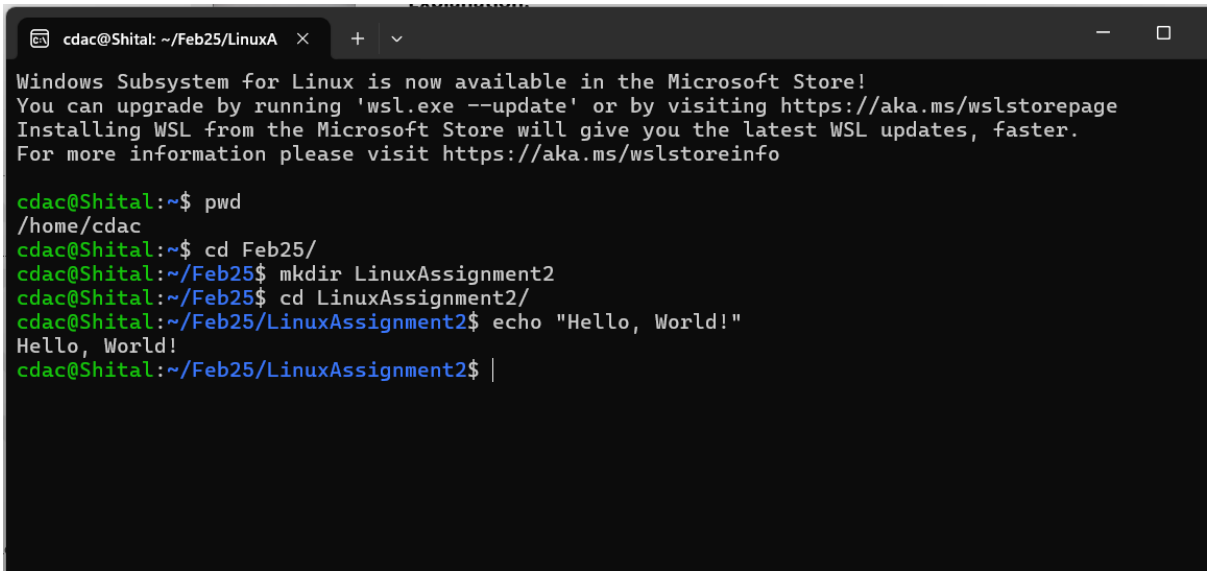
Part A

1) What will the following commands do?

1. **echo "Hello, World!"**
   - This command will print the string present in the double quotes i.e. Hello World. Even if quotes aren't provided echo command prints the string provided with it.

Ans: cdac@Shital:~/Feb25/LinuxAssignment2$ echo "Hello, World!"

Hello, World!

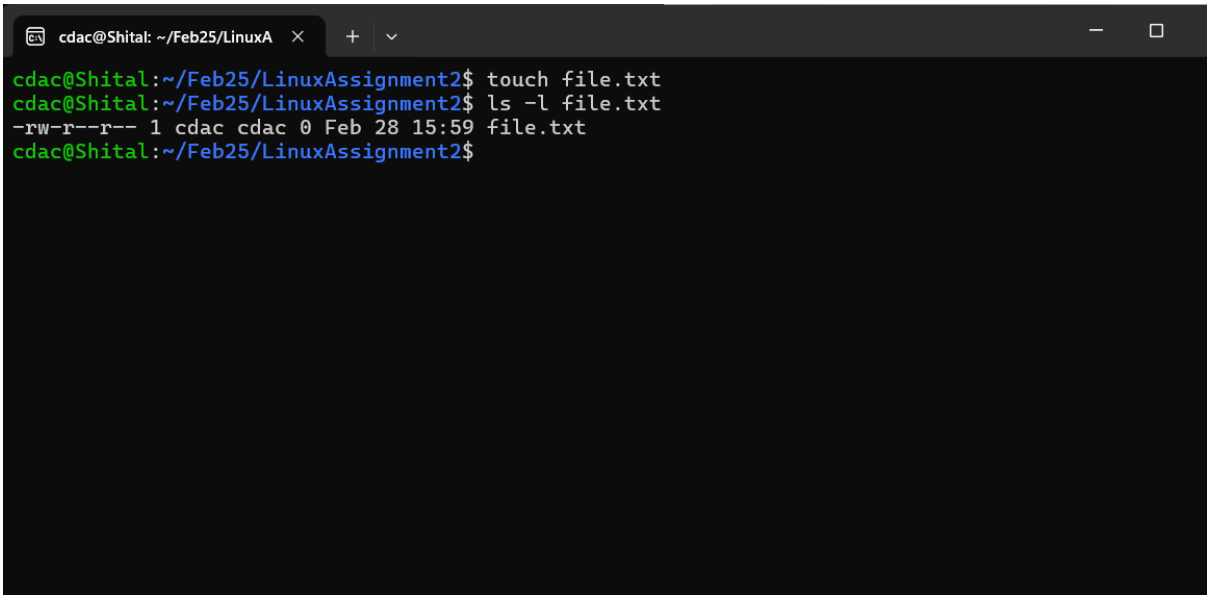


2. **name="Productive"**
   -This command will assign a string literal i.e. Productive to the shell variable named name.

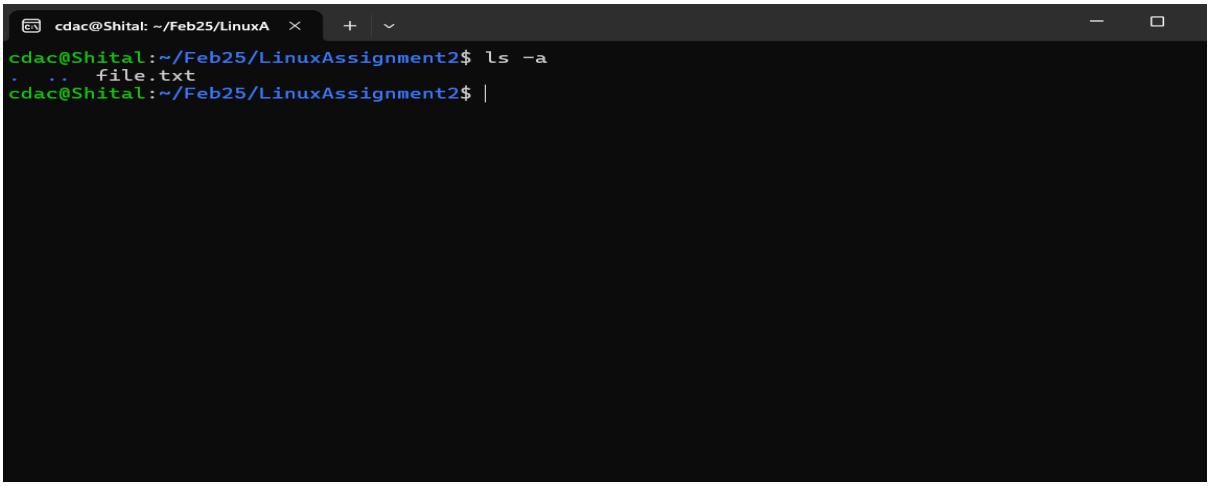
   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ name="Productive"
   cdac@Shital:~/Feb25/LinuxAssignment2$ echo $name
   Productive

3. **touch file.txt**
   - touch command will create an empty file. In the above example, touch command will create a file named file.txt.

   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ touch file.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file.txt
   -rw-r--r-- 1 cdac cdac 0 Feb 28 15:59 file.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$

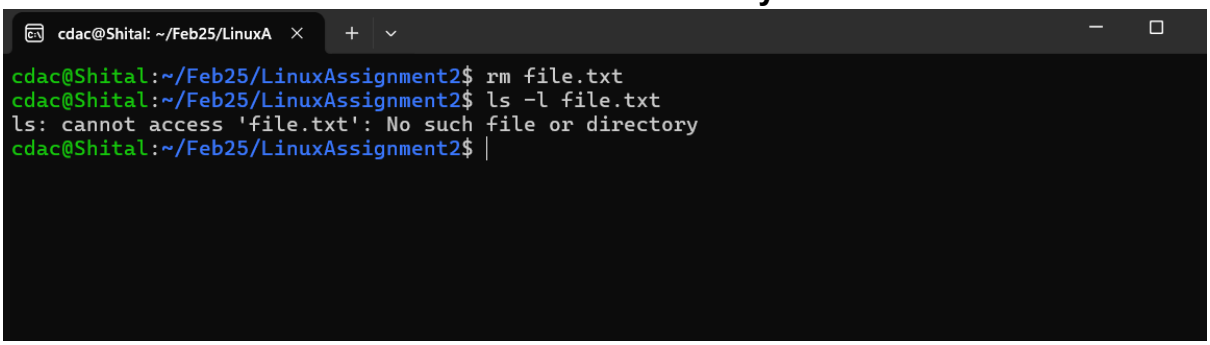


4. **ls -a**
   - ls command lists the contents of a current directory. With -a option we can also list hidden files and directories.
   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ ls -a
   . .. file.txt



5. **rm file.txt**
   -rm command is used to delete a file or directory (-r option). In the above example, rm command deletes the file named file.txt.

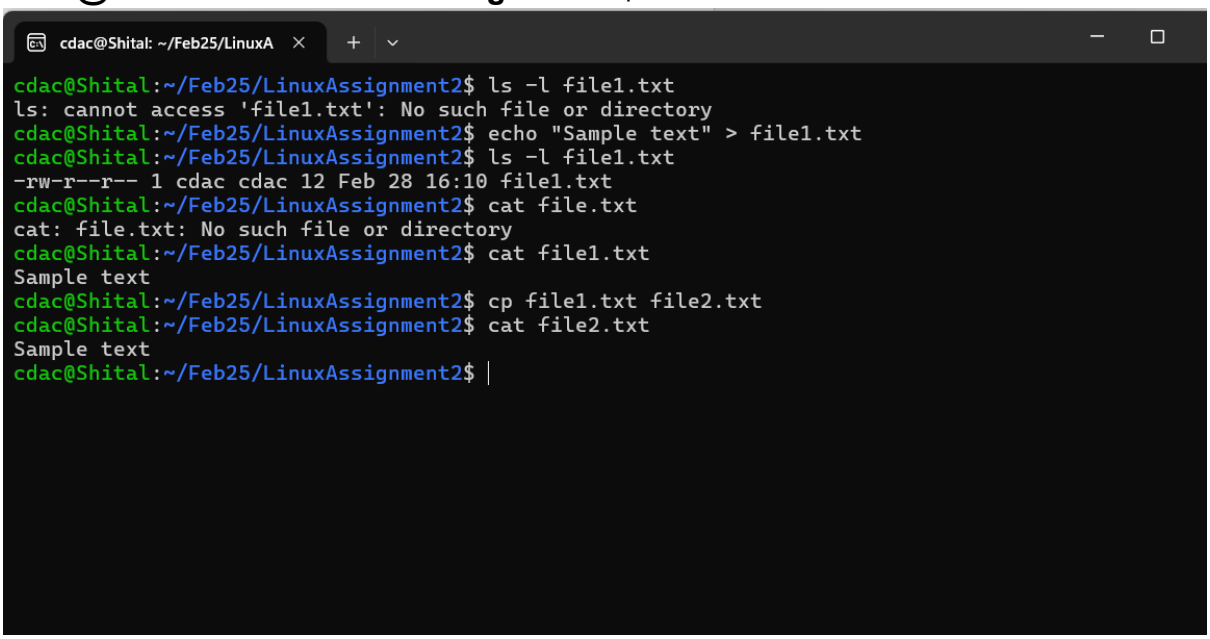
   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ rm file.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file.txt
   ls: cannot access 'file.txt': No such file or directory



6. **cp file1.txt file2.txt**
   -cp command is used to copy files and directories. In the above example, the given command copies the contents of file1.txt, creates a file named file2.txt and pastes the content in it.

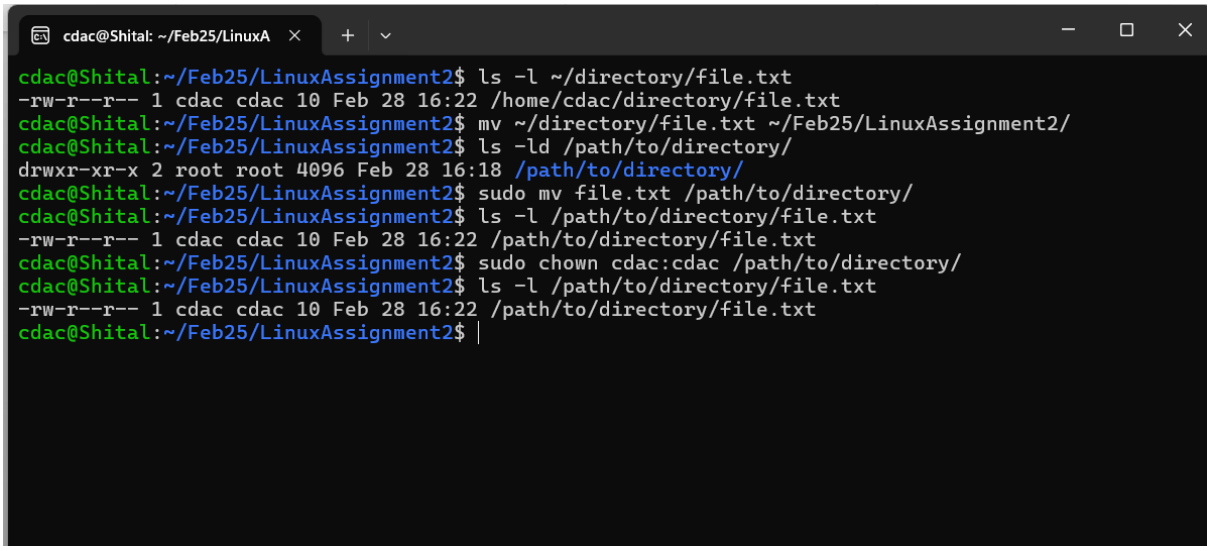
   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file1.txt
   ls: cannot access 'file1.txt': No such file or directory
   cdac@Shital:~/Feb25/LinuxAssignment2$ echo "Sample text" > file1.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file1.txt
   -rw-r--r-- 1 cdac cdac 12 Feb 28 16:10 file1.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$ cat file.txt
   cat: file.txt: No such file or directory
   cdac@Shital:~/Feb25/LinuxAssignment2$ cat file1.txt
   Sample text
   cdac@Shital:~/Feb25/LinuxAssignment2$ cp file1.txt file2.txt

cdac@Shital:~/Feb25/LinuxAssignment2$ cat file2.txt
Sample text
cdac@Shital:~/Feb25/LinuxAssignment2$



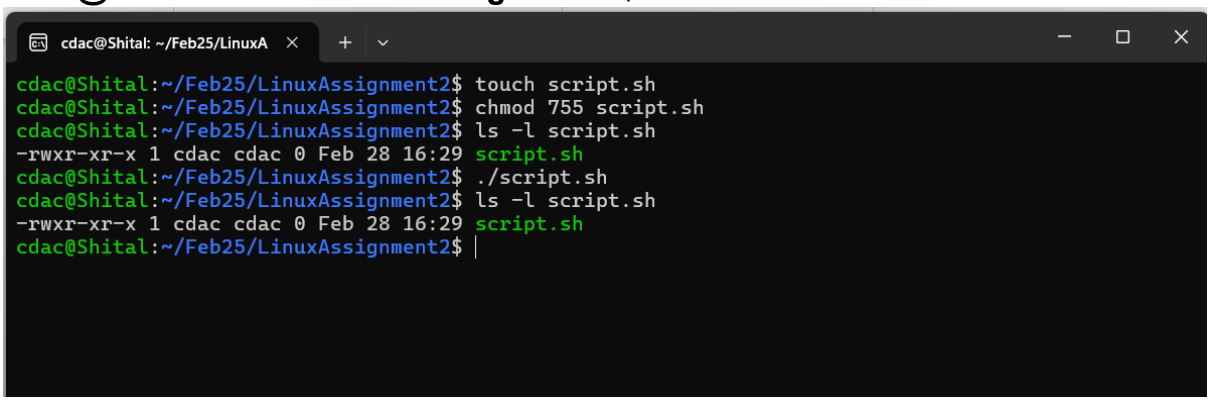
7. **mv file.txt /path/to/directory/**
   -mv command is used rename or move a file. In the above example, mv command moves the file (file.txt) into the specified directory (/path/to/directory/). For this command to work these directories must be present in advance.

   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l ~/directory/file.txt
   -rw-r--r-- 1 cdac cdac 10 Feb 28 16:22 /home/cdac/directory/file.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$ mv ~/directory/file.txt ~/Feb25/LinuxAssignment2/
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -ld /path/to/directory/
   drwxr-xr-x 2 root root 4096 Feb 28 16:18 /path/to/directory/
   cdac@Shital:~/Feb25/LinuxAssignment2$ sudo mv file.txt /path/to/directory/
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l /path/to/directory/file.txt
   -rw-r--r-- 1 cdac cdac 10 Feb 28 16:22 /path/to/directory/file.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$ sudo chown cdac:cdac /path/to/directory/
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l /path/to/directory/file.txt
   -rw-r--r-- 1 cdac cdac 10 Feb 28 16:22 /path/to/directory/file.txt
   cdac@Shital:~/Feb25/LinuxAssignment2$



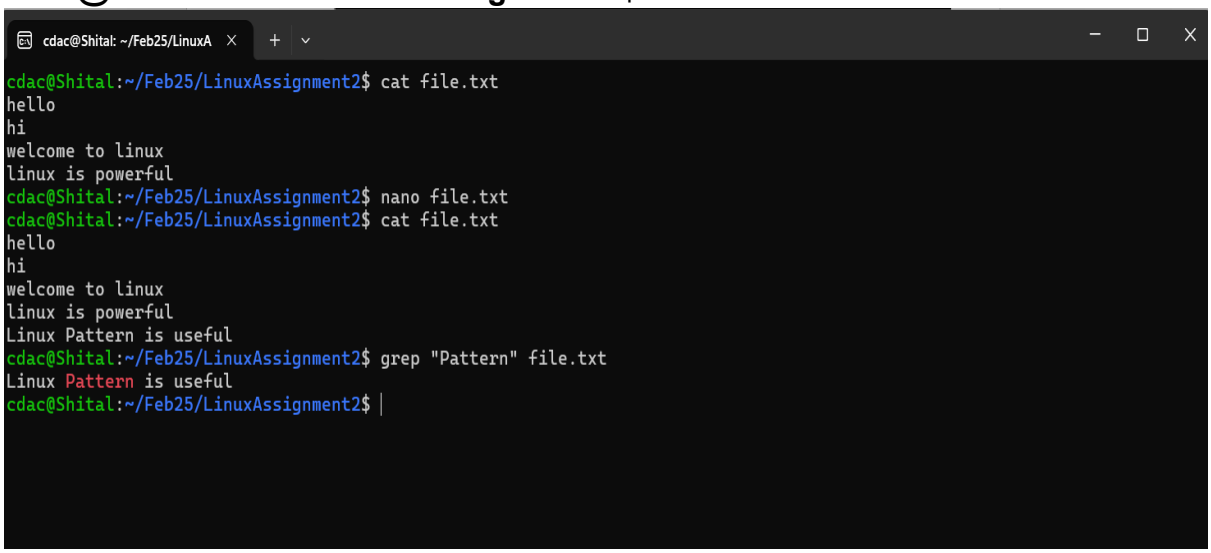
8. **chmod 755 script.sh**
   -chmod stands for change modifications. This command is used to assign read, write, and execute permissions to owner, group and other users respectively. The above command gives read, write and execute permissions to the owner and read and execute permissions to group and other users respectively to script.sh file.

   Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ touch script.sh
   cdac@Shital:~/Feb25/LinuxAssignment2$ chmod 755 script.sh
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l script.sh
   -rwxr-xr-x 1 cdac cdac 0 Feb 28 16:29 script.sh
   cdac@Shital:~/Feb25/LinuxAssignment2$ ./script.sh
   cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l script.sh
   -rwxr-xr-x 1 cdac cdac 0 Feb 28 16:29 script.sh
   cdac@Shital:~/Feb25/LinuxAssignment2$



9. **grep "pattern" file.txt**
   - grep command is used to search for specific patterns or regular expressions in text files & display the matching lines. Above given command, searches for the string “pattern” from the file named file.txt.

Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ cat file.txt
hello
hi
welcome to linux
linux is powerful
cdac@Shital:~/Feb25/LinuxAssignment2$ nano file.txt
cdac@Shital:~/Feb25/LinuxAssignment2$ cat file.txt
hello
hi
welcome to linux
linux is powerful
Linux Pattern is useful
cdac@Shital:~/Feb25/LinuxAssignment2$ grep "Pattern" file.txt
Linux Pattern is useful
cdac@Shital:~/Feb25/LinuxAssignment2$

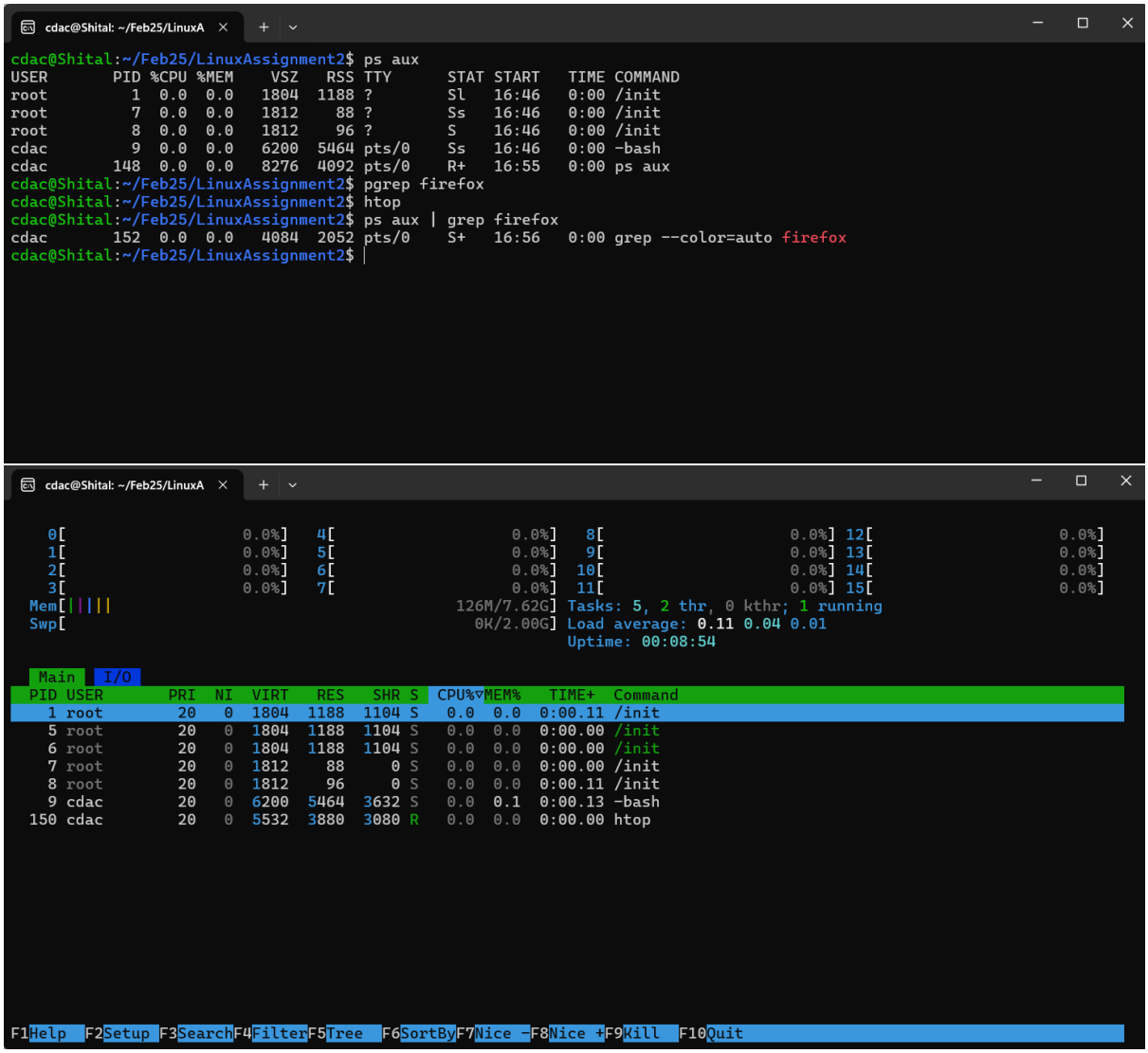


10. **kill PID**

-This command will terminate the process whose PID is mentioned in the command. Since the above command doesn't contain any process id, above command will result in an error.

Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ ps aux
USER PID %CPU %MEM VSZ RSS TTY STAT START TIME COMMAND
root 1 0.0 0.0 1804 1188 ? Sl 16:46 0:00 /init
root 7 0.0 0.0 1812 88 ? Ss 16:46 0:00 /init
root 8 0.0 0.0 1812 96 ? S 16:46 0:00 /init
cdac 9 0.0 0.0 6200 5464 pts/0 Ss 16:46 0:00 -bash
cdac 148 0.0 0.0 8276 4092 pts/0 R+ 16:55 0:00 ps aux
cdac@Shital:~/Feb25/LinuxAssignment2$ pgrep firefox
cdac@Shital:~/Feb25/LinuxAssignment2$ htop

cdac@Shital:~/Feb25/LinuxAssignment2$ ps aux | grep firefox
cdac 152 0.0 0.0 4084 2052 pts/0 S+ 16:56 0:00 grep --color=auto firefox

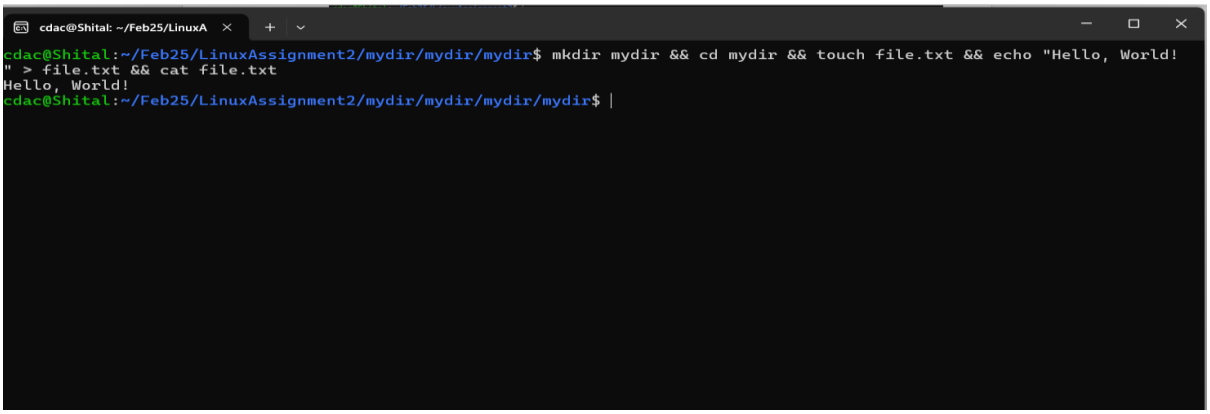


11. **mkdir mydir && cd mydir && touch file.txt && echo "Hello, World!" > file.txt && cat file.txt**

-&& (logical AND) operator is used here which enables the user to run multiple commands in single command.
- The above command produces a series of results where output of previous command acts as input for a next command. At first, mkdir command creates a mydir directory in the current directory.
- cd command is then used to change current directory to new created mydir directory. Touch file.txt creates an empty file named file.txt. Further, echo command will display the message “Hello World” on the terminal. This output of echo command is inserted into file.txt using (>) redirect operator.
- Finally, contents of file.txt are displayed using cat

command.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2/mydir/mydir/mydir$ mkdir mydir && cd mydir && touch file.txt && echo "Hello, World!" > file.txt && cat file.txt
Hello, World!



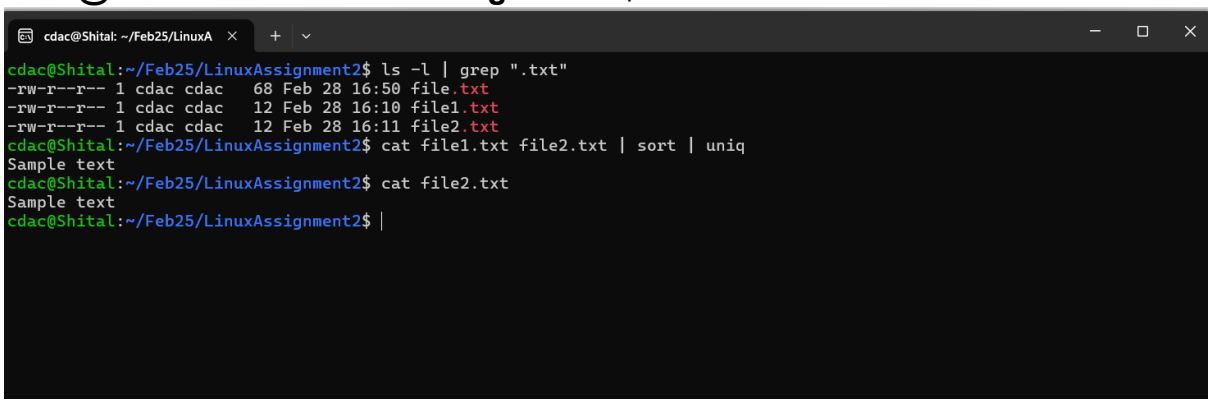
12. **ls -l | grep ".txt"**
    -The above command uses piping to combine the output of both ls and grep command. ls -l is used to display the contents of current directory with details and grep ".txt" command is used to display all the files conating .txt pattern in their name.

    Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l | grep ".txt"
    -rw-r--r-- 1 cdac cdac 68 Feb 28 16:50 file.txt
    -rw-r--r-- 1 cdac cdac 12 Feb 28 16:10 file1.txt
    -rw-r--r-- 1 cdac cdac 12 Feb 28 16:11 file2.txt
    cdac@Shital:~/Feb25/LinuxAssignment2$

13. **cat file1.txt file2.txt | sort | uniq**
    -cat command displays the content of file1.txt followed by file2.txt. sort command is used to perform alphanumeric sort on the result of cat command. Contents of file1.txt and file2.txt are sorted separately in the result.

- uniq -d command is used to display only duplicate lines in the previous output.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l | grep ".txt"
-rw-r--r-- 1 cdac cdac 68 Feb 28 16:50 file.txt
-rw-r--r-- 1 cdac cdac 12 Feb 28 16:10 file1.txt
-rw-r--r-- 1 cdac cdac 12 Feb 28 16:11 file2.txt
cdac@Shital:~/Feb25/LinuxAssignment2$ cat file1.txt file2.txt | sort | uniq
Sample text
cdac@Shital:~/Feb25/LinuxAssignment2$ cat file2.txt
Sample text
cdac@Shital:~/Feb25/LinuxAssignment2$



14. **ls -l | grep "^d"**
    -ls command lists the files and directories in long format. grep "^d" command filters the output to show only lines that start with "d" which in the ls -l output indicates directories.

    Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l | grep "^d"
    drwxr-xr-x 3 cdac cdac 4096 Feb 28 17:04 mydir

15. **grep -r "pattern" /path/to/directory/**
    - Here grep command is used to recursively search for given pattern “pattern” in the directory /path/to/directory, provided that such directory exists in first place. The output will display the lines containing

the “pattern” pattern in it.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ grep -r "pattern" /path/to/directory/

cdac@Shital:~/Feb25/LinuxAssignment2$ ls -ld /path/to/directory/

drwxr-xr-x 2 cdac cdac 4096 Feb 28 16:26 /path/to/directory/

cdac@Shital:~/Feb25/LinuxAssignment2$ echo "This is a test pattern" > /path/to/directory/file1.txt

cdac@Shital:~/Feb25/LinuxAssignment2$ echo "No match here" > /path/to/directory/file2.txt

cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l /path/to/directory/

total 12

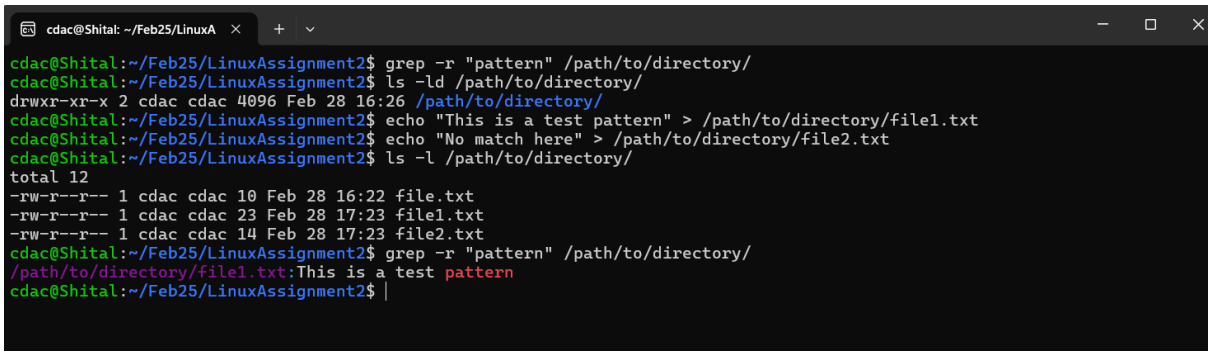
-rw-r--r-- 1 cdac cdac 10 Feb 28 16:22 file.txt

-rw-r--r-- 1 cdac cdac 23 Feb 28 17:23 file1.txt

-rw-r--r-- 1 cdac cdac 14 Feb 28 17:23 file2.txt

cdac@Shital:~/Feb25/LinuxAssignment2$ grep -r "pattern" /path/to/directory/

/path/to/directory/file1.txt:This is a test pattern

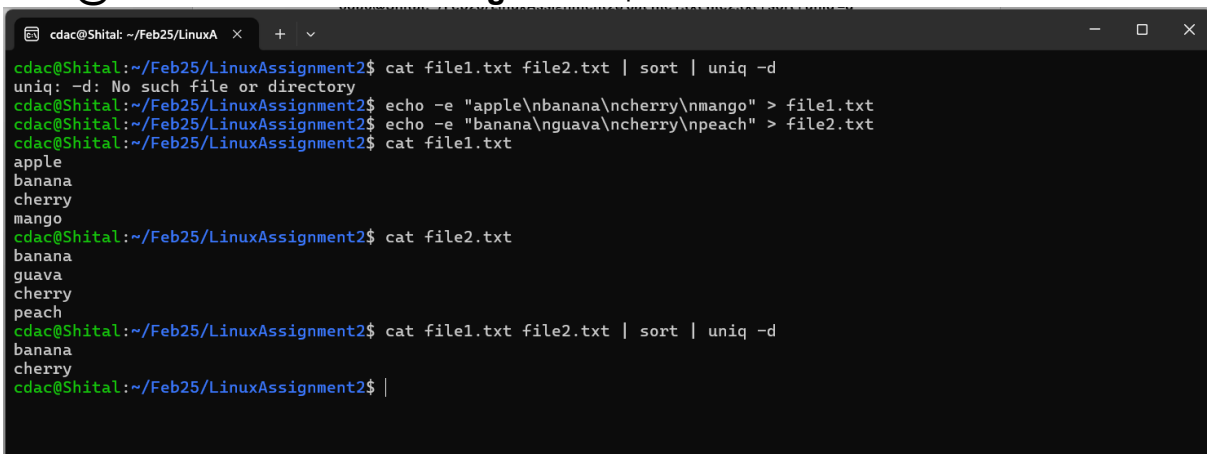


16. **cat file1.txt file2.txt | sort | uniq –d**

-cat command displays the content of file1.txt followed by file2.txt. sort command is used to perform alphanumeric sort on the result of cat command. Contents of file1.txt and file2.txt are sorted separately in the result.
- uniq -d command is used to display only duplicate lines in the previous output.

Ans: cdac@Shital:~/Feb25/LinuxAssignment2$ cat file1.txt file2.txt | sort | uniq –d
uniq: –d: No such file or directory

cdac@Shital:~/Feb25/LinuxAssignment2$ echo -e "apple\nbanana\ncherry\nmango" > file1.txt
cdac@Shital:~/Feb25/LinuxAssignment2$ echo -e "banana\nguava\ncherry\npeach" > file2.txt
cdac@Shital:~/Feb25/LinuxAssignment2$ cat file1.txt
apple
banana
cherry
mango
cdac@Shital:~/Feb25/LinuxAssignment2$ cat file2.txt
banana
guava
cherry
peach
cdac@Shital:~/Feb25/LinuxAssignment2$ cat file1.txt file2.txt | sort | uniq -d
banana
cherry
cdac@Shital:~/Feb25/LinuxAssignment2$



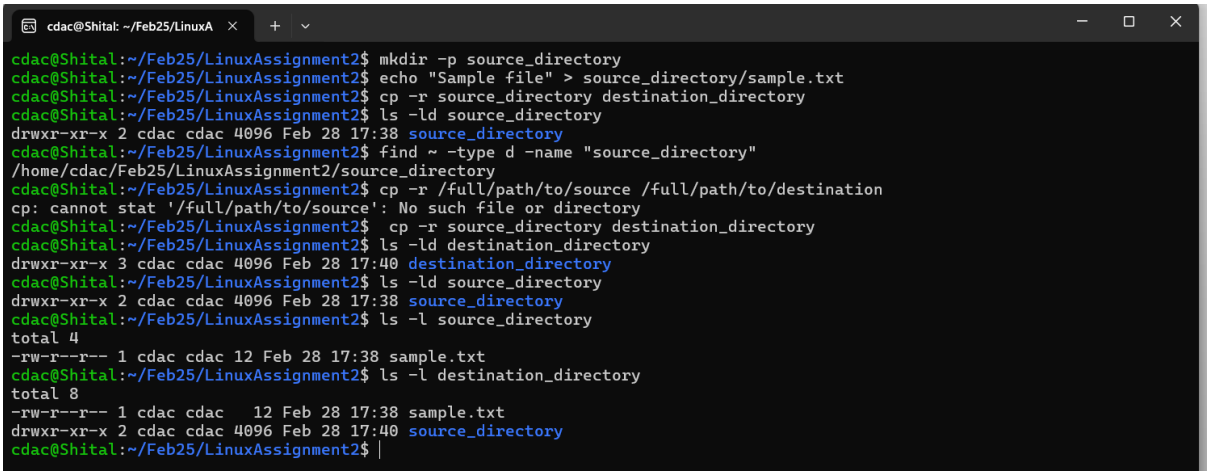
17. **chmod 644 file.txt**
    -The above command assigns read and write permissions to owner of the file file.txt and read permission to group users and other users respectively.

    Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ chmod 644 file.txt
    cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file.txt
    -rw-r--r-- 1 cdac cdac 46 Feb 28 17:32 file.txt
    cdac@Shital:~/Feb25/LinuxAssignment2$

18. **cp -r source_directory destination_directory**

    -The above command is used to copy the source_directory to destination directory. This is done by using -r option so that all files in source_directory are copied recursively.

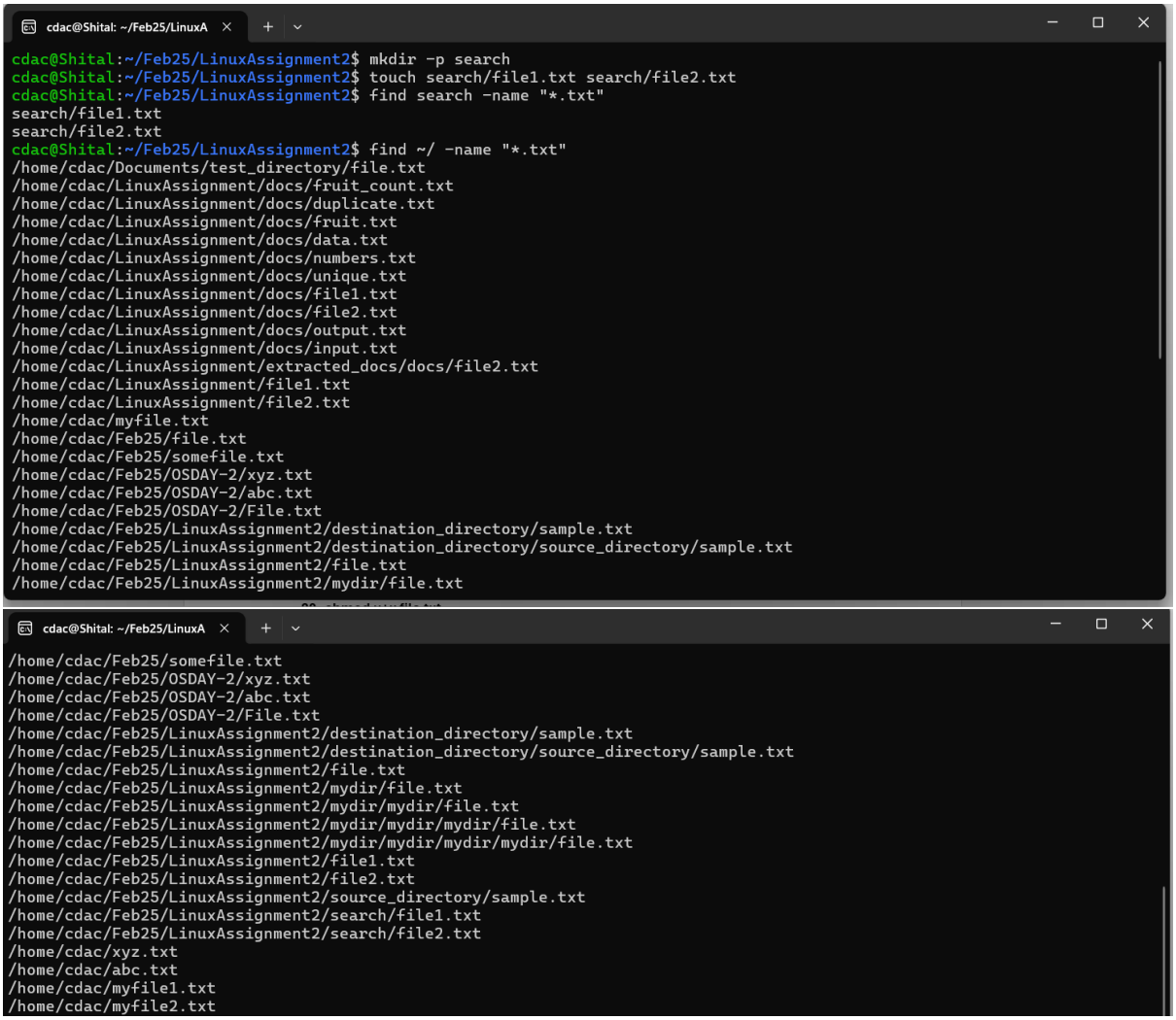
    Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ mkdir -p source_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ echo "Sample file" > source_directory/sample.txt
    cdac@Shital:~/Feb25/LinuxAssignment2$ cp -r source_directory destination_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ ls -ld source_directory
    drwxr-xr-x 2 cdac cdac 4096 Feb 28 17:38 source_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ find ~ -type d -name "source_directory"
    /home/cdac/Feb25/LinuxAssignment2/source_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ cp -r /full/path/to/source /full/path/to/destination
    cp: cannot stat '/full/path/to/source': No such file or directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ cp -r source_directory destination_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ ls -ld destination_directory
    drwxr-xr-x 3 cdac cdac 4096 Feb 28 17:40 destination_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ ls -ld source_directory
    drwxr-xr-x 2 cdac cdac 4096 Feb 28 17:38 source_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l source_directory
    total 4
    -rw-r--r-- 1 cdac cdac 12 Feb 28 17:38 sample.txt
    cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l destination_directory
    total 8
    -rw-r--r-- 1 cdac cdac 12 Feb 28 17:38 sample.txt
    drwxr-xr-x 2 cdac cdac 4096 Feb 28 17:40 source_directory
    cdac@Shital:~/Feb25/LinuxAssignment2$



19. **find /path/to/search -name "*.txt"**

    -find command is used for searching the files and directories. Given command searches /path/to/search directory and its subdirectories for any file ending with .txt pattern.

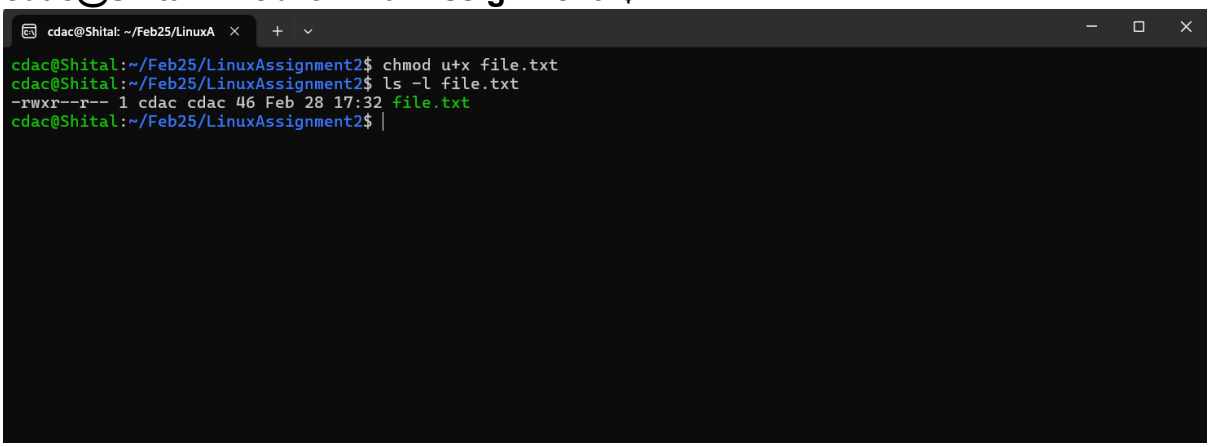
    Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ mkdir -p search
    cdac@Shital:~/Feb25/LinuxAssignment2$ touch search/file1.txt search/file2.txt
    cdac@Shital:~/Feb25/LinuxAssignment2$ find search -name "*.txt"
    search/file1.txt
    search/file2.txt



20. chmod u+x file.txt

-This command is used to grant execute permissions for file.txt file to the user(owner) of the file.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ chmod u+x file.txt
cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file.txt
-rwxr--r-- 1 cdac cdac 46 Feb 28 17:32 file.txt
cdac@Shital:~/Feb25/LinuxAssignment2$



21. **echo $PATH**
    -This command displays the value of system environment variable that stores directories where executable programs are located.

Ans:. cdac@Shital:~/Feb25/LinuxAssignment2$ chmod u+x file.txt

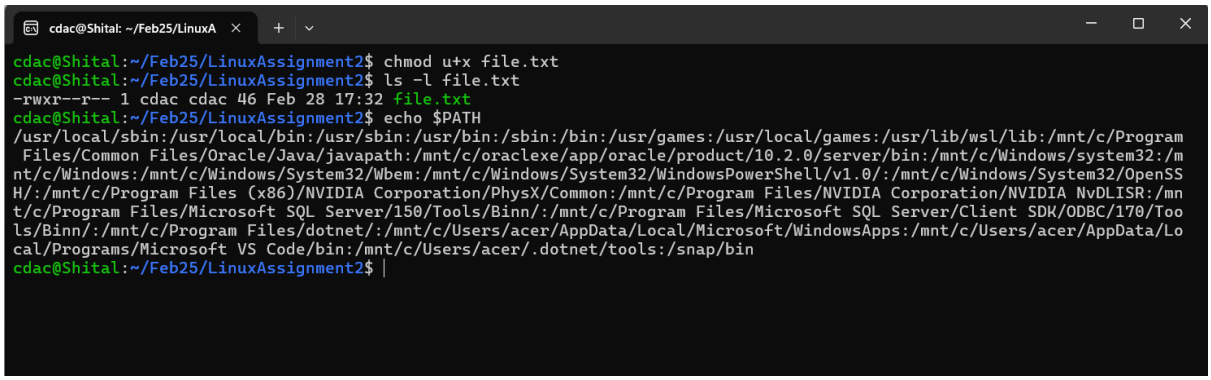
cdac@Shital:~/Feb25/LinuxAssignment2$ ls -l file.txt

-rwxr--r-- 1 cdac cdac 46 Feb 28 17:32 file.txt

cdac@Shital:~/Feb25/LinuxAssignment2$ echo $PATH

/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/usr/lib/wsl/lib:/mnt/c/Program Files/Common Files/Oracle/Java/javapath:/mnt/c/oraclexe/app/oracle/product/10.2.0/server/bin:/mnt/c/Windows/system32:/mnt/c/Windows:/mnt/c/Windows/System32/Wbem:/mnt/c/Windows/System32/WindowsPowerShell/v1.0/:/mnt/c/Windows/System32/OpenSSH/:/mnt/c/Program Files (x86)/NVIDIA Corporation/PhysX/Common:/mnt/c/Program Files/NVIDIA Corporation/NVIDIA NvDLISR:/mnt/c/Program Files/Microsoft SQL Server/150/Tools/Binn/:/mnt/c/Program Files/Microsoft SQL Server/Client SDK/ODBC/170/Tools/Binn/:/mnt/c/Program Files/dotnet/:/mnt/c/Users/acer/AppData/Local/Microsoft/WindowsApps:/mnt/c/Users/acer/AppData/Local/Programs/Microsoft VS Code/bin:/mnt/c/Users/acer/.dotnet/tools:/snap/bin

cdac@Shital:~/Feb25/LinuxAssignment2$



Part B

Identify True or False:

1. **ls is used to list files and directories in a directory.**
   Ans.: True
2. **mv is used to move files and directories.**

Ans.: True

3. **cd is used to copy files and directories.**
   Ans.: False

4. pwd stands for "print working directory" and displays the current directory.

Ans.: True

5. grep is used to search for patterns in files.

Ans.: True

6. chmod 755 file.txt gives read, write, and execute permissions to the owner, and read and execute permissions to group and others.

Ans.: True

7. mkdir -p directory1/directory2 creates nested directories, creating directory2 inside directory1

if directory1 does not exist.

Ans.: True

8. rm -rf file.txt deletes a file forcefully without confirmation.

Ans.: True

*****Identify the Incorrect Commands:********

1. **chmodx is used to change file permissions.**
   Ans:. **Correct command**: chmod (not chmodx).
2. **cpy is used to copy files and directories.**
   Ans.: Correct command: cp (not cpy).
3. **mkfile is used to create a new file.**

Ans.: Correct commands:

- touch filename → Creates an empty file.
- echo "text" > filename → Creates a file with text.

4. **catx is used to concatenate files.**

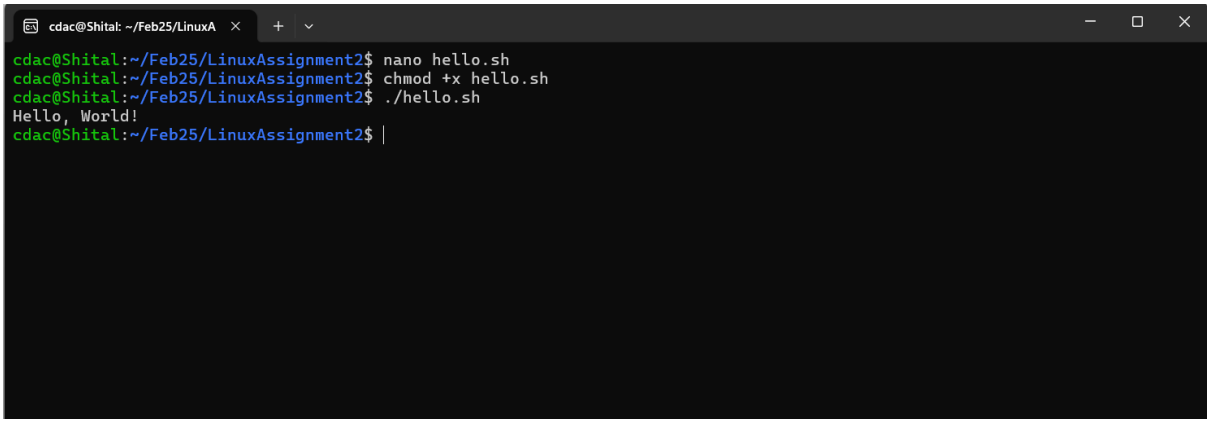
   Ans.: Correct command: cat (not catx).

5. **rn is used to rename files.**
   Ans.: Correct command: mv oldname newname (Linux does not have an rn command)

Part C

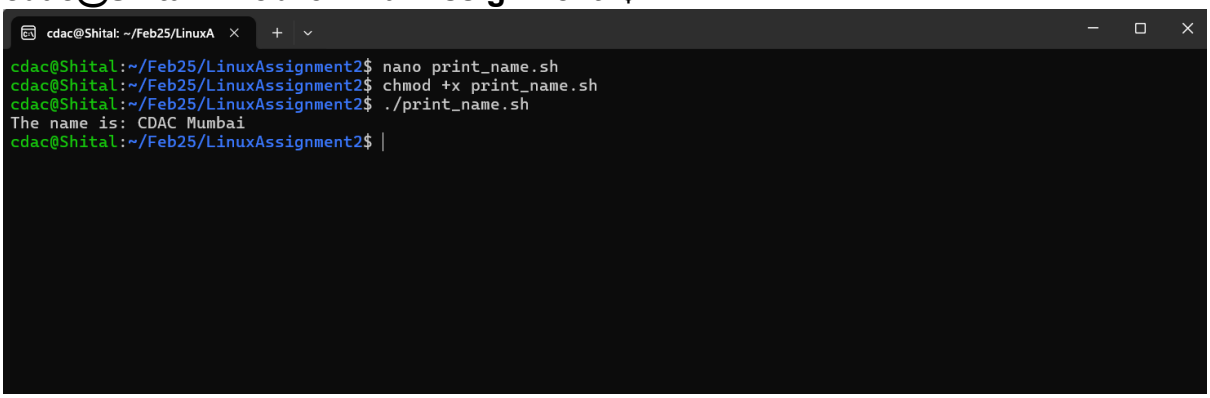
Question 1: Write a shell script that prints "Hello, World!" to the terminal.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano hello.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x hello.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./hello.sh
Hello, World!
cdac@Shital:~/Feb25/LinuxAssignment2$



Question 2: Declare a variable named "name" and assign the value "CDAC Mumbai" to it. Print the value of the variable.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano print_name.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x print_name.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./print_name.sh
The name is: CDAC Mumbai
cdac@Shital:~/Feb25/LinuxAssignment2$



Question 3: Write a shell script that takes a number as input from the user and prints it.

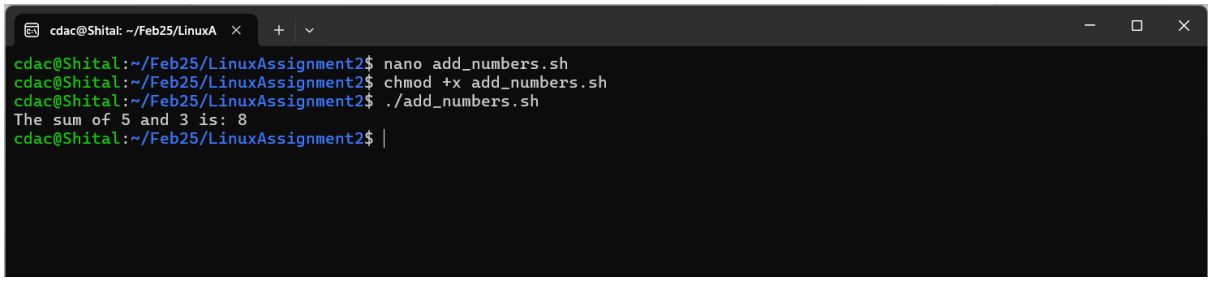
Ans.:
cdac@Shital:~/Feb25/LinuxAssignment2$ nano print_number.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x print_number.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./print_number.sh
Enter a number:

10
You entered: 10
cdac@Shital:~/Feb25/LinuxAssignment2$

Question 4: Write a shell script that performs addition of two numbers (e.g., 5 and 3) and prints the
result.

Ans.:

cdac@Shital:~/Feb25/LinuxAssignment2$ nano add_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x add_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./add_numbers.sh
The sum of 5 and 3 is: 8
cdac@Shital:~/Feb25/LinuxAssignment2$

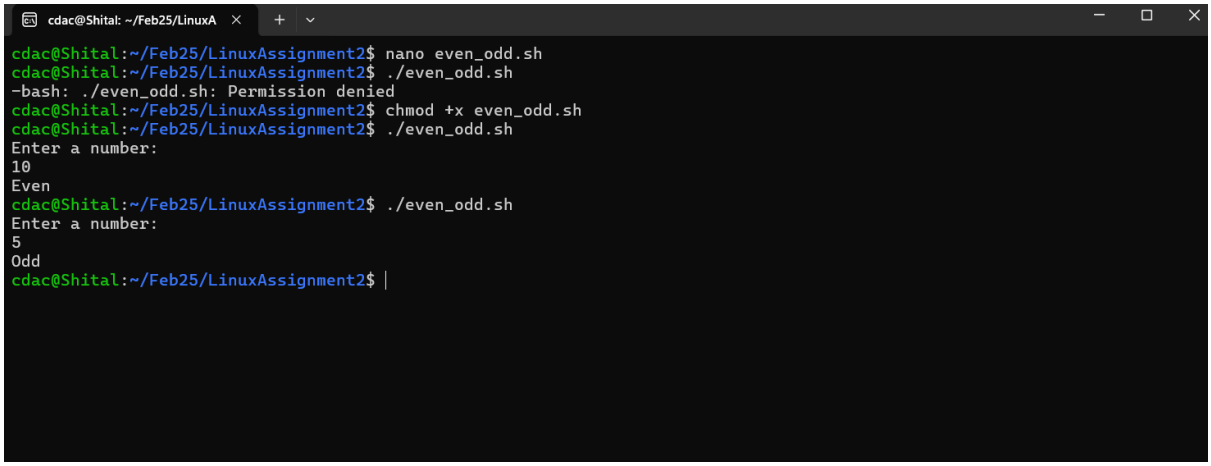


Question 5: Write a shell script that takes a number as input and prints "Even" if it is even, otherwise
prints "Odd".

Ans.:

cdac@Shital:~/Feb25/LinuxAssignment2$ nano even_odd.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./even_odd.sh
-bash: ./even_odd.sh: Permission denied
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x even_odd.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./even_odd.sh
Enter a number:
10
Even
cdac@Shital:~/Feb25/LinuxAssignment2$ ./even_odd.sh
Enter a number:
5

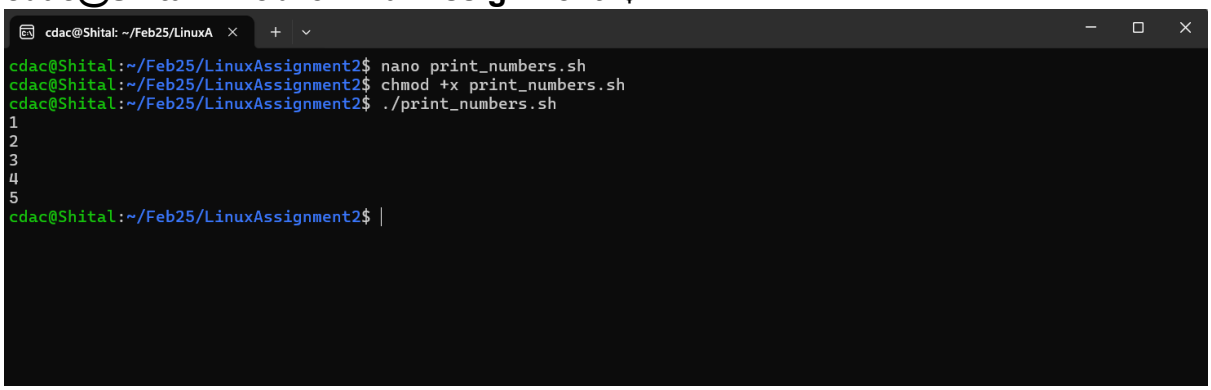
Odd
cdac@Shital:~/Feb25/LinuxAssignment2$



Question 6: Write a shell script that uses a for loop to print numbers from 1 to 5.

Ans.:

cdac@Shital:~/Feb25/LinuxAssignment2$ nano print_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x print_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./print_numbers.sh
1
2
3
4
5
cdac@Shital:~/Feb25/LinuxAssignment2$



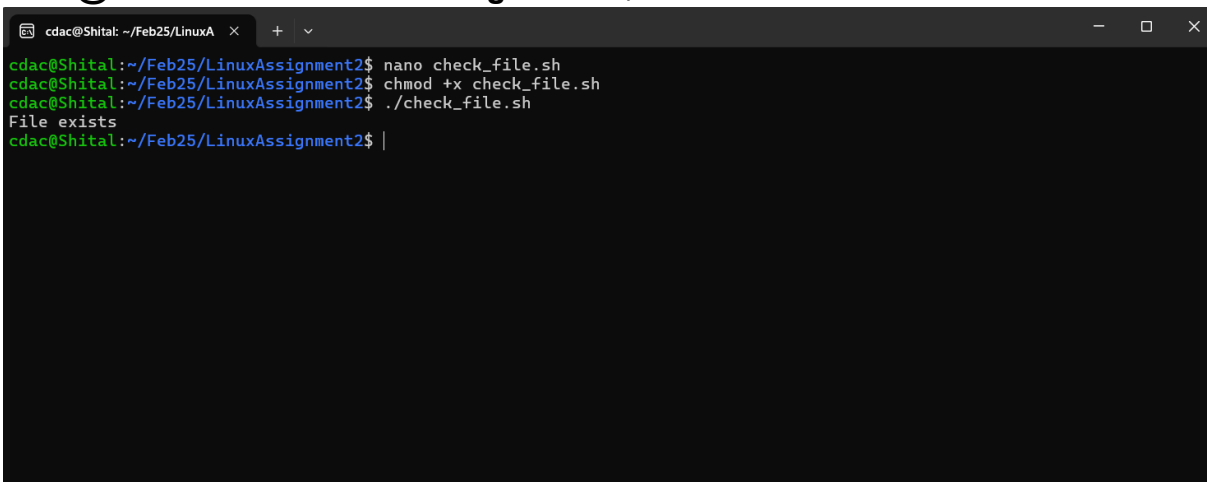
Question 7: Write a shell script that uses a while loop to print numbers from 1 to 5.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano while_loop.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x while_loop.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./while_loop.sh
1

2
3
4
5
cdac@Shital:~/Feb25/LinuxAssignment2$

Question 8: Write a shell script that checks if a file named "file.txt" exists in the current directory. If it does, print "File exists", otherwise, print "File does not exist".

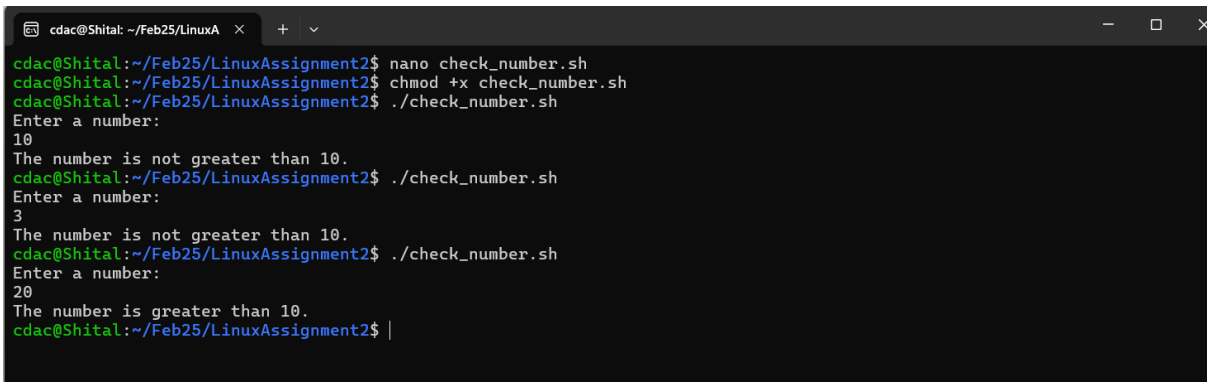
Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano check_file.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x check_file.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./check_file.sh
File exists
cdac@Shital:~/Feb25/LinuxAssignment2$



Question 9: Write a shell script that uses the if statement to check if a number is greater than 10 and
prints a message accordingly.

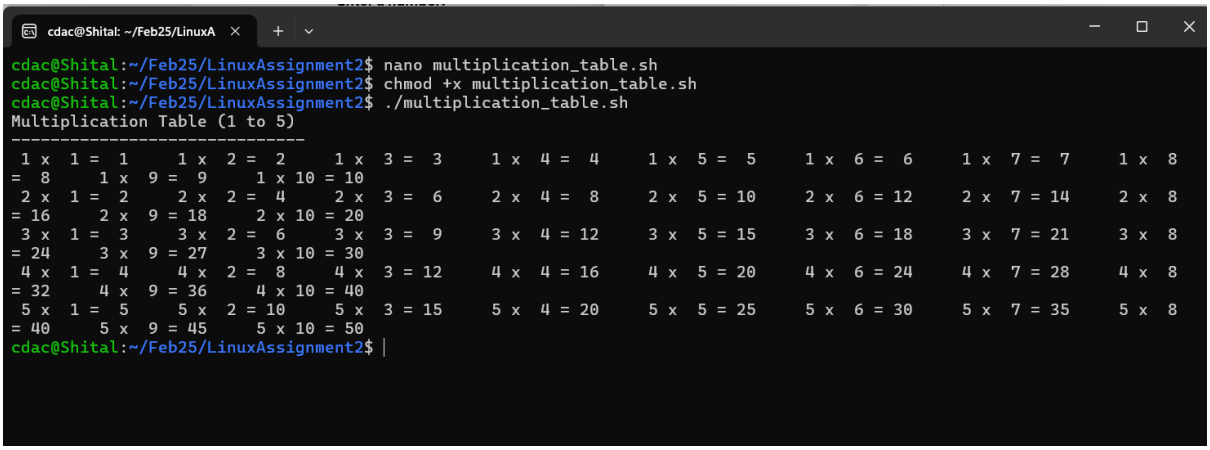
Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano check_number.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x check_number.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./check_number.sh
Enter a number:
10
The number is not greater than 10.

cdac@Shital:~/Feb25/LinuxAssignment2$ ./check_number.sh
Enter a number:
3
The number is not greater than 10.
cdac@Shital:~/Feb25/LinuxAssignment2$ ./check_number.sh
Enter a number:
20
The number is greater than 10.
cdac@Shital:~/Feb25/LinuxAssignment2$



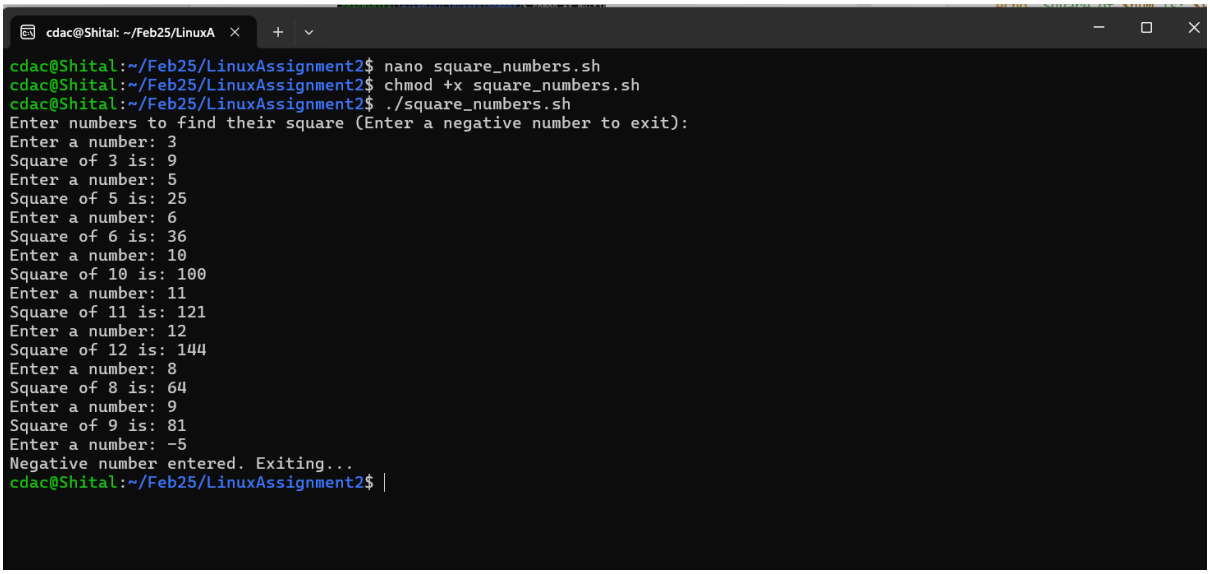
Question 10: Write a shell script that uses nested for loops to print a multiplication table for numbers from 1 to 5. The output should be formatted nicely, with each row representing a number and each column representing the multiplication result for that number.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano multiplication_table.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x multiplication_table.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./multiplication_table.sh
Multiplication Table (1 to 5)
----
1 x 1 = 1 1 x 2 = 2 1 x 3 = 3 1 x 4 = 4 1 x 5 = 5 1 x 6 = 6 1 x 7 = 7 1 x 8 = 8 1 x 9 = 9 1 x 10 = 10
2 x 1 = 2 2 x 2 = 4 2 x 3 = 6 2 x 4 = 8 2 x 5 = 10 2 x 6 = 12 2 x 7 = 14 2 x 8 = 16 2 x 9 = 18 2 x 10 = 20
3 x 1 = 3 3 x 2 = 6 3 x 3 = 9 3 x 4 = 12 3 x 5 = 15 3 x 6 = 18 3 x 7 = 21 3 x 8 = 24 3 x 9 = 27 3 x 10 = 30
4 x 1 = 4 4 x 2 = 8 4 x 3 = 12 4 x 4 = 16 4 x 5 = 20 4 x 6 = 24 4 x 7 = 28 4 x 8 = 32 4 x 9 = 36 4 x 10 = 40
5 x 1 = 5 5 x 2 = 10 5 x 3 = 15 5 x 4 = 20 5 x 5 = 25 5 x 6 = 30 5 x 7 = 35 5 x 8 = 40 5 x 9 = 45 5 x 10 = 50
cdac@Shital:~/Feb25/LinuxAssignment2$



Question 11: Write a shell script that uses a while loop to read numbers from the user until the user enters
a negative number. For each positive number entered, print its square. Use the break statement to exit the
loop when a negative number is entered.

Ans.: cdac@Shital:~/Feb25/LinuxAssignment2$ nano square_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x square_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./square_numbers.sh
Enter numbers to find their square (Enter a negative number to exit):
Enter a number: 3
Square of 3 is: 9
Enter a number: 5
Square of 5 is: 25
Enter a number: 6
Square of 6 is: 36
Enter a number: 10
Square of 10 is: 100
Enter a number: 11
Square of 11 is: 121
Enter a number: 12
Square of 12 is: 144
Enter a number: 8
Square of 8 is: 64
Enter a number: 9
Square of 9 is: 81
Enter a number: -5
Negative number entered. Exiting...
cdac@Shital:~/Feb25/LinuxAssignment2$


cdac@Shital: ~/Feb25/LinuxA
cdac@Shital:~/Feb25/LinuxAssignment2$ nano square_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ chmod +x square_numbers.sh
cdac@Shital:~/Feb25/LinuxAssignment2$ ./square_numbers.sh
Enter numbers to find their square (Enter a negative number to exit):
Enter a number: 3
Square of 3 is: 9
Enter a number: 5
Square of 5 is: 25
Enter a number: 6
Square of 6 is: 36
Enter a number: 10
Square of 10 is: 100
Enter a number: 11
Square of 11 is: 121
Enter a number: 12
Square of 12 is: 144
Enter a number: 8
Square of 8 is: 64
Enter a number: 9
Square of 9 is: 81
Enter a number: -5
Negative number entered. Exiting...
cdac@Shital:~/Feb25/LinuxAssignment2$