Concepts of Operating System
Assignment 2

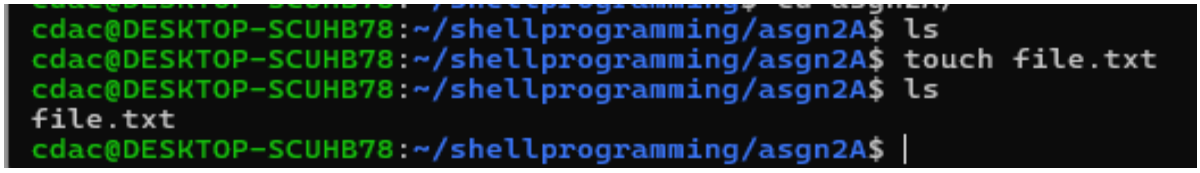
Part A

What will the following commands do?

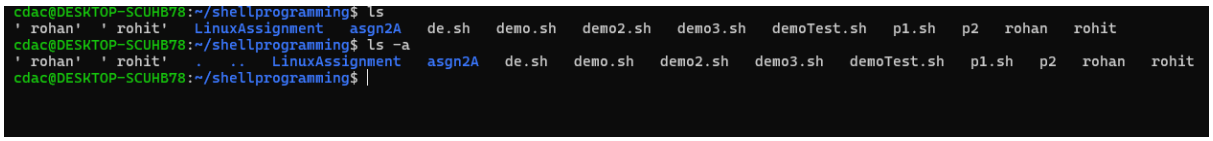
1. echo "Hello, World!" – echo command used to display lines of text or string which are passed as arguments on the command line. This shows the Hello,World! On command line.

2. name="Productive" - it assign the value Productive to name

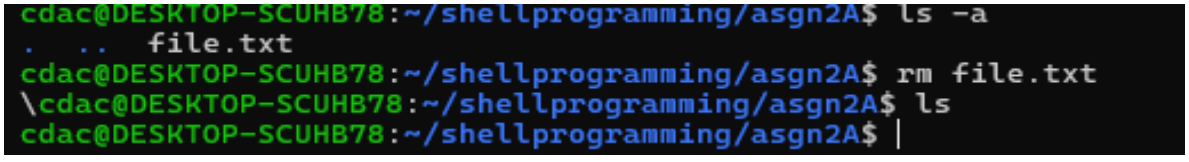
3.touch file.txt – create the file with filename file



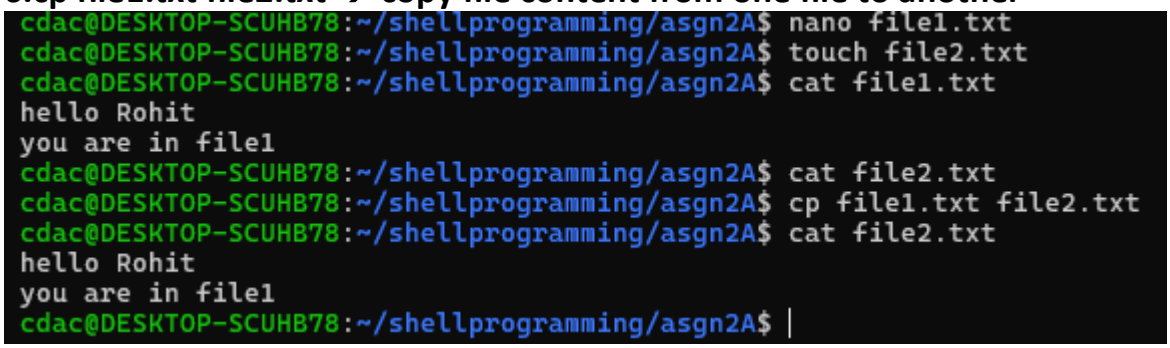
4. ls -a → used to display the hidden files, eg. Here hidden file is start with "."



5. rm file.txt → used to remove file



6.cp file1.txt file2.txt → copy file content from one file to another



7. mv file.txt /path/to/directory/ →use to move file from one directory to another directory

```
mv: cannot stat 'file.txt': No such file or directory
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls
file1.txt  file2.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cd ..
cdac@DESKTOP-SCUHB78:~/shellprogramming$ mv file.txt /home/cdac/shellprogramming/asgn2A
cdac@DESKTOP-SCUHB78:~/shellprogramming$ ls
' rohan'  ' rohit'   asgn2A   de.sh   demo.sh   demo2.sh   demo3.sh   demoTest.sh   p1.sh   p2   rohan   rohit
cdac@DESKTOP-SCUHB78:~/shellprogramming$ cd asgn2A/
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls
file.txt  file1.txt  file2.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file.txt
you are in file
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

8. chmod 755 script.sh → this command will change permissions of script.sh it gives read, write, and execute permissions to the owner, and read and execute permissions to group and others

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ nano script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat script.sh
echo "u r inside script.sh"
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 16
-rw-r--r-- 1 cdac cdac 16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac 30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac 30 Aug 31 18:08 file2.txt
-rw-r--r-- 1 cdac cdac 28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ chmod 755 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 16
-rw-r--r-- 1 cdac cdac 16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac 30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac 30 Aug 31 18:08 file2.txt
-rwxr-xr-x 1 cdac cdac 28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

9. grep "pattern" file.txt

```
0
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ grep -c Rohit file1.txt
1
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ grep -n Rohit file1.
txt
1:hello Rohit
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ grep -l "Rohit" *
file1.txt
file2.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

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

```
file2.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ mkdir mydir && cd mydir && touch file.txt && echo "Hello, World!" > file.txt && cat file.txt
Hello, World!
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A/mydir$ ls
file.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A/mydir$
```

11. ls -l | grep ".txt"

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls
file.txt  file1.txt  file2.txt  mydir  script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l | grep ".txt"
-rw-r--r-- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:08 file2.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l | grep "*.txt"
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

12.cat file1.txt file2.txt | sort | uniq →this command gives us the uniq content from file1 and file2 in sorted way

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file1.txt
hello Rohit
you are in file1
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file.txt
you are in file
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file1.txt file.txt | sort | uniq
hello Rohit
you are in file
you are in file1
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file.txt file1.txt | sort | uniq
hello Rohit
you are in file
you are in file1
```

13. ls -l | grep "^d" → it gives the file list which having same file type. Here "^d" stands for directory and "^-" stands for the file

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l | grep "^d"
drwxr-xr-x 2 cdac cdac 4096 Aug 31 18:38 mydir
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls
file.txt  file1.txt  file2.txt  mydir  script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 20
-rw-r--r-- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   76 Aug 31 18:49 file2.txt
drwxr-xr-x 2 cdac cdac 4096 Aug 31 18:38 mydir
-rwxr-xr-x 1 cdac cdac   28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l | grep "^-"
-rw-r--r-- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   76 Aug 31 18:49 file2.txt
-rwxr-xr-x 1 cdac cdac   28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

14. grep -r "pattern" /path/to/directory/ → this will return the all lines from all the files from same directory which are matching the pattern.

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ grep -r "he" /home/cdac/shellprogramming/asgn2A
/home/cdac/shellprogramming/asgn2A/file2.txt:hello Rohit
/home/cdac/shellprogramming/asgn2A/file2.txt:here dhgfuweifkl
/home/cdac/shellprogramming/asgn2A/file2.txt:hence dasjhqerf[pkf
/home/cdac/shellprogramming/asgn2A/file1.txt:hello Rohit
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

15. cat file1.txt file2.txt | sort | uniq –d → it will return the lines which are not repeated in sorted manner.

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file1.txt file2.txt | sort
e
h
hello Rohit
hello Rohit
hence dasjhqerf[pkf
here dhgfuweifkl
proved
you are in file1
you are in file1
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ cat file1.txt file2.txt | sort | uniq -d
hello Rohit
you are in file1
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

16. chmod 644 file.txt → it will give the read write permission to owner and read only permission to other and group.

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ chmod 000 file.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 20
---------- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   79 Aug 31 19:13 file2.txt
drwxr-xr-x 2 cdac cdac 4096 Aug 31 18:38 mydir
-rwxr-xr-x 1 cdac cdac   28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ chmod 644 file.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 20
-rw-r--r-- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   79 Aug 31 19:13 file2.txt
drwxr-xr-x 2 cdac cdac 4096 Aug 31 18:38 mydir
-rwxr-xr-x 1 cdac cdac   28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

17. cp -r source_directory destination_directory → it will copy the whole directory from one directory to another

```
cdac@DESKTOP-SCUHB78:~$ ls
Assignment2  LinuxAssignment  abc.txt  shellprogramming
cdac@DESKTOP-SCUHB78:~$ cp -r LinuxAssignment/ shellprogramming/
cdac@DESKTOP-SCUHB78:~$ ls
Assignment2  LinuxAssignment  abc.txt  shellprogramming
cdac@DESKTOP-SCUHB78:~$ cd shellprogramming/
cdac@DESKTOP-SCUHB78:~/shellprogramming$ ls
' rohan'  ' rohit'   LinuxAssignment   asgn2A   de.sh   demo.sh   demo2.sh   demo3.sh   demoTest.sh   p1.sh   p2   rohan   rohit
cdac@DESKTOP-SCUHB78:~/shellprogramming$
```

18. find /path/to/search -name "*.txt" → used to return all the files from the directory with path

```
cdac@DESKTOP-SCUHB78:~/shellprogramming$ find /home/cdac/LinuxAssignment -name "*.txt"
/home/cdac/LinuxAssignment/input.txt
/home/cdac/LinuxAssignment/sortedFruits.txt
/home/cdac/LinuxAssignment/file4.txt
/home/cdac/LinuxAssignment/data.txt
/home/cdac/LinuxAssignment/fruit.txt
/home/cdac/LinuxAssignment/output.txt
/home/cdac/LinuxAssignment/docs/file2.txt
/home/cdac/LinuxAssignment/duplicate.txt
/home/cdac/LinuxAssignment/numbers.txt
/home/cdac/LinuxAssignment/file1.txt
/home/cdac/LinuxAssignment/d2/docs/file2.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming$
```

19. chmod u+x file.txt → it will give execute permission to user

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 20
-rw-r--r-- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   79 Aug 31 19:13 file2.txt
drwxr-xr-x 2 cdac cdac 4096 Aug 31 18:38 mydir
-rwxr-xr-x 1 cdac cdac   28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ chmod u+x file.txt
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ ls -l
total 20
-rwxr--r-- 1 cdac cdac   16 Aug 31 18:12 file.txt
-rw-r--r-- 1 cdac cdac   30 Aug 31 18:07 file1.txt
-rw-r--r-- 1 cdac cdac   79 Aug 31 19:13 file2.txt
drwxr-xr-x 2 cdac cdac 4096 Aug 31 18:38 mydir
-rwxr-xr-x 1 cdac cdac   28 Aug 31 18:23 script.sh
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```

20. echo $PATH → PATH is an environment variable listing a set of paths to directories where executable may be found**.**

```
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/usr/lib/wsl/lib:/mnt/c/Program Files/Common Files/Oracle/Java/javapath:/mnt/c/Windows/system32:/mnt/c/Windows:/mnt/c/W
indows/System32/Wbem:/mnt/c/Windows/System32/WindowsPowerShell/v1.0/:/mnt/c/Windows/System32/OpenSSH/:/mnt/c/Program Files/dotnet/:/mnt/c/Program Files/Git/cmd:/mnt/c/Users/rohit/AppData/Local/Microsoft/Windo
wsApps:/mnt/c/Program Files/JetBrains/IntelliJ IDEA Community Edition 2023.2.2/bin:/snap/bin
cdac@DESKTOP-SCUHB78:~/shellprogramming/asgn2A$
```