



## Faculty of Technology and Engineering

Chandubhai S. Patel Institute of Technology

Department of Computer Science & Engineering

Date: 21/12/24

### Practical 1

Academic Year	:	2023-24	Semester	:	4 <sup>th</sup>
Course code	:	CSE208	Course name	:	Operating System

Perform Linux Commands for the following (Provide Soft copy)

#### 1. Directory-Oriented Commands (Task: Set up the directory structure for your coursework.)

- Create a directory named **4CSE** to represent your semester

```
23cs070@67b74b9c12a7dc36e52b5915:~$ mkdir 4CSE
```

- Navigate into the 4CSE directory

```
23cs070@67b74b9c12a7dc36e52b5915:~$ cd 4CSE
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$
```

- Create subdirectories for organizing your subjects: CSE208\_OS and CSE209\_Python.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ mkdir CSE208_OS CSE209_Python
```

- Verify the structure by listing all files and directories.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ ls -l
CSE208_OS
CSE209_Python
```

- Check your current directory path

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ pwd
/home/23cs070/4CSE
```

- Find all directories inside 4CSE.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ find . -type d
.
./CSE208_OS
./CSE209_Python
```

- Check the disk usage of the 4CSE directory.

```
23cs070@67b74b9c12a7dc36e52b5915:~$ du -sh 4CSE
0      4CSE
```

- Check available disk space on your system.

```
23cs070@67b74b9c12a7dc36e52b5915:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
overlay          20G   126M   20G   1% /
tmpfs            64M     0    64M   0% /dev
tmpfs            7.7G     0   7.7G   0% /sys/fs/cgroup
shm              64M     0    64M   0% /dev/shm
/dev/vdb         100G   19G   82G  19% /etc/hosts
tmpfs            7.7G     0   7.7G   0% /proc/acpi
tmpfs            7.7G     0   7.7G   0% /proc/scsi
tmpfs            7.7G     0   7.7G   0% /sys/firmware
```

**2. File-Oriented Commands (Task: Create and manage files for your coursework.)**

- Create a text file named CSE208\_Operating\_System.txt inside the CSE209\_OS directory.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ touch CSE208_OS/CSE208_Operating_System.txt
```

- Write some content into the file.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ echo "Operating System is an interface between user and hardware." > CSE208_OS/CSE208_Operating_System.txt
```

- Display the content of the file.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ cat CSE208_OS/CSE208_Operating_System.txt
Operating System is an interface between user and hardware.
```

- Copy the file to the CSE209\_Python directory.

```
23cs070@67b74b9c12a7dc36e52b5915:~/4CSE$ cp CSE208_OS/CSE208_Operating_System.txt CSE209_Python/
```

- Rename the copied file to CSE208\_OS\_Copy.txt in the CSE209\_Python directory.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ mv CSE209_Python/CSE208_Operating_System.txt CSE209_Python/CSE208_OS_Copy.txt
```

- Delete the copied file.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ rm CSE209_Python/CSE208_OS_Copy.txt
```

- Count the words, lines, and characters in the original file.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ wc CSE208_OS/CSE208_Operating_System.txt
1 10 64 CSE208_OS/CSE208_Operating_System.txt
```

- Compare the original file with a backup file (if created)

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ diff CSE208_OS/CSE208_Operating_System.txt CSE208_OS/backup.txt
1d0
< Operating System is an interface between the user and hardware.
```

**3. File Processing Commands (Task: Process the content of your files.)**

- Display the first 5 lines of the CSE208\_Operating\_System.txt file.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ head -5 CSE208_OS/CSE208_Operating_System.txt
Operating System is an interface between the user and hardware.
```

- Display the last 5 lines of the file.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ tail -5 CSE208_OS/CSE208_Operating_System.txt
Operating System is an interface between the user and hardware.
```

- Reverse the content of the file and display it.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ tac CSE208_OS/CSE208_Operating_System.txt
Operating System is an interface between the user and hardware.
```

- Add line numbers to the file and display the result.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ cat -n CSE208_OS/CSE208_Operating_System.txt
1 Operating System is an interface between the user and hardware.
```

- Convert tabs to spaces in the file.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ expand CSE208_OS/CSE208_Operating_System.txt
Operating System is an interface between the user and hardware.
```

**4. General Purpose Commands (Task: Use general-purpose commands to manage your session.)**

- Check the current date and time.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ date
Fri Feb 21 01:09:35 CST 2025
```

- Find out who is logged in to the system.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ who
```

- Find your username.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ whoami
23cs070
```

- Display the manual page for the `ls` command.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ man ls
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 speci-
    fied.

    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

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

- Display the calendar for the current month.

```
February 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
```

- Log your terminal session into a file named `session.log`.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ script session.log
Script started, output log file is 'session.log'.
```

- Display a message using the `tput` command.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ tput setaf 2; echo "Hello CSE Student
"; tput sgr0
Hello CSE Students!
```

- Clear the terminal screen.

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ clear
```

- Perform a simple arithmetic operation (e.g., addition)

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ echo $((70+70))  
140
```

- Split a large file into smaller parts (if applicable).

```
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ echo "This is a Test File." > largefi  
,txt  
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ truncate -s 5M largefile.txt  
23cs070@67b759ce12a7dc36e52b619f:~/4CSE$ split -b 1M largefile.txt par
```