

LINUX LAB FILE

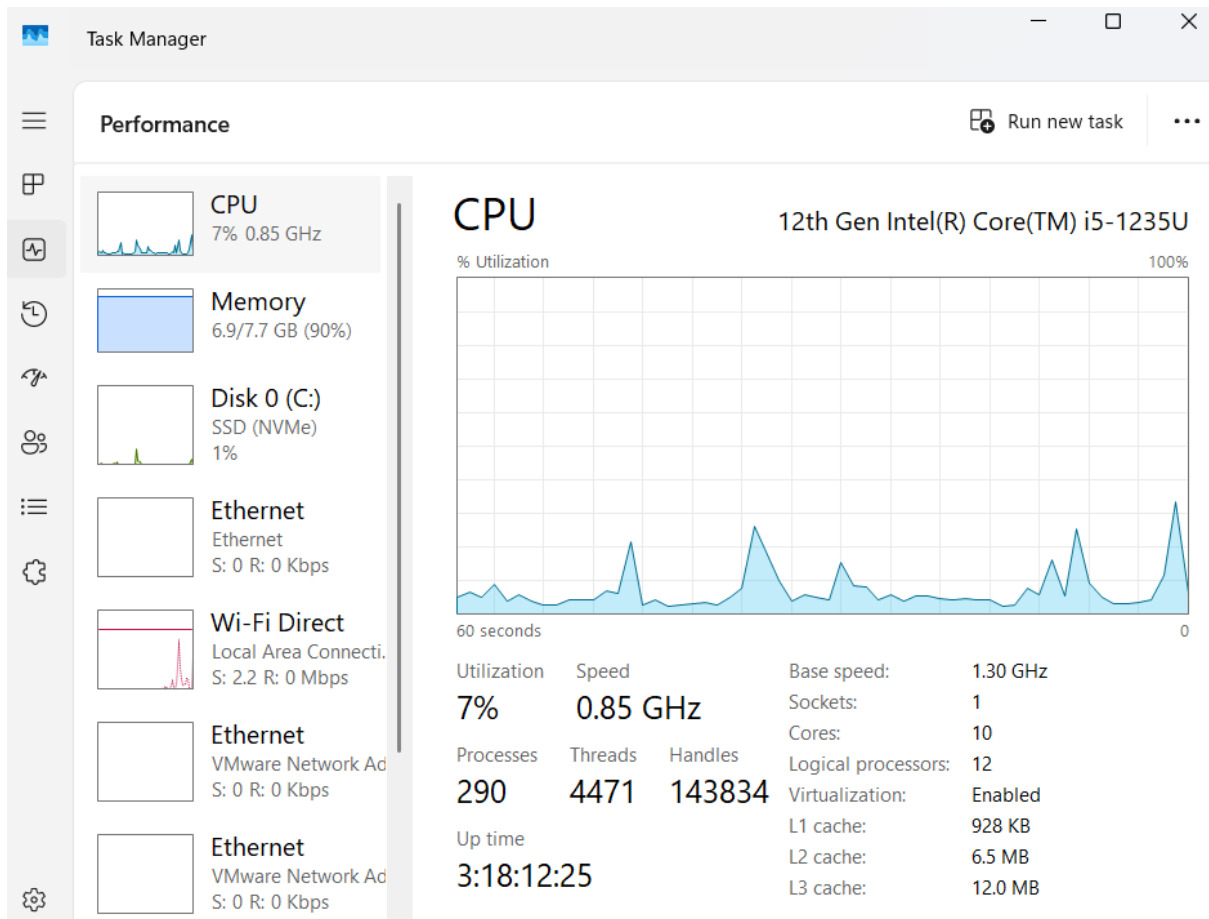
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Sap id: 590027859

Batch :78

Course :B.tech computer science

EXPERIMENT :1



Task Manager

Performance Run new task

CPU 12th Gen Intel(R) Core(TM) i5-1235U

7% 0.85 GHz

6.9/7.7 GB (90%)

Disk 0 (C:) SSD (NVMe) 1%

Ethernet Ethernet S: 0 R: 0 Kbps

Wi-Fi Direct Local Area Connecti. S: 2.2 R: 0 Mbps

Ethernet VMware Network Ad S: 0 R: 0 Kbps

Ethernet VMware Network Ad S: 0 R: 0 Kbps

CPU

% Utilization 60 seconds 100%

Utilization Speed Base speed: 1.30 GHz

7% 0.85 GHz Sockets: 1

Processes Threads Handles Cores: 10

290 4471 143834 Logical processors: 12

Up time Virtualization: Enabled

3:18:12:25 L1 cache: 928 KB

L2 cache: 6.5 MB

L3 cache: 12.0 MB

```
Downloading: Windows Subsystem for Linux 2.5.10
Installing: Windows Subsystem for Linux 2.5.10
Windows Subsystem for Linux 2.5.10 has been installed.
The operation completed successfully.
Invalid command line argument: --installwsl
Please use 'wsl.exe --help' to get a list of supported arguments.
PS C:\Users\samru> wsl --install
Downloading: Ubuntu
Installing: Ubuntu
Distribution successfully installed. It can be launched via 'wsl.exe -d Ubuntu'
Launching Ubuntu...
Provisioning the new WSL instance Ubuntu
This might take a while...
Create a default Unix user account: Create a default Unix user account:
Invalid username. A valid username must start with a lowercase letter or underscore, and can contain lowercase letters,
digits, underscores, and dashes.
Create a default Unix user account: samru
New password:
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
passwd: password unchanged
Try again? [y/N] y
New password:
Retype new password:
passwd: password updated successfully
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ |
```

```
Get:54 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Meta
Fetched 36.9 MB in 19s (1989 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
9 packages can be upgraded. Run 'apt list --upgradable' to see them.
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$
```

```

Processing triggers for libc-bin (2.14-0ubuntu4.1) ...
samru@LAPTOP-IJ96A07J:~/mnt/c/Users/samru$ sudo apt install -y git curl wget build-essential
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1ubuntu7.3).
git set to manually installed.
curl is already the newest version (8.5.0-2ubuntu10.6).
curl set to manually installed.
wget is already the newest version (1.21.4-1ubuntu4.1).
wget set to manually installed.
The following additional packages will be installed:
  bzip2 cpp cpp-13 cpp-13-x86-64-linux-gnu cpp-x86-64-linux-gnu dpkg-dev fakeroot g++ g++-13 g++-13-x86-64-linux-gnu
  g++-x86-64-linux-gnu gcc gcc-13 gcc-13-base gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libalgorithm-diff-perl
  libalgorithm-diff-xs-perl libalgorithm-merge-perl libao3 libasan8 libatomic1 libc-dev-bin libc-devtools libc6-dev
  libc6-1 libcrypt-dev libdeb265-0 libdpkg-perl libfakeroot libfile-fcntllock-perl libgcc-13-dev libgomp1

```

```
Processing triggers for man-db (2.12.0-4build2)
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ cd ~
samru@LAPTOP-1J96A07J:~$
```

```
samru@LAPTOP-1J96A07J:~$ pwd          # Show current location
ls          # List files
mkdir test  # Make a new folder called test
cd test     # Enter the folder
echo "Hello WSL" > hello.txt    # Create a text file
cat hello.txt    # Show the contents
/home/samru
Hello WSL
samru@LAPTOP-1J96A07J:~/test$ |
```

```
samru@LAPTOP-1J96A07J:~/test$ sudo apt install -y python3 python3-pip python3-venv
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python3 is already the newest version (3.12.3-0ubuntu2).
python3 set to manually installed.
The following additional packages will be installed:
  javascript-common libexpat1-dev libjs-jquery libjs-sphinxdoc libjs-underscore libpython3-dev
  python3-dev python3-pip-whl python3-setuptools-whl python3-wheel python3.12-dev python3.12-venv
Suggested packages:
  apache2 | lighttpd | httpd
The following NEW packages will be installed:
  javascript-common libexpat1-dev libjs-jquery libjs-sphinxdoc libjs-underscore libpython3-dev
  python3-dev python3-pip python3-pip-whl python3-setuptools-whl python3-venv python3-wheel
  python3.12-venv zlib1g-dev
0 upgraded, 16 newly installed, 0 to remove and 0 not upgraded.
Need to get 11.6 MB of archives.
After this operation, 44.0 MB of additional disk space will be used.
```

```
Setting up python3-venv (3.12.3-0ubuntu2) ...
Setting up python3.12-dev (3.12.3-1ubuntu0.8) ...
Setting up libjs-sphinxdoc (7.2.6-6) ...
Setting up libpython3-dev:amd64 (3.12.3-0ubuntu2) ...
Setting up python3-dev (3.12.3-0ubuntu2) ...
Processing triggers for man-db (2.12.0-4build2) ...
samru@LAPTOP-1J96A07J:~/test$ |
```

```
samru@LAPTOP-1J96A07J:~/test$ python3 --version
pip3 --version
Python 3.12.3
pip 24.0 from /usr/lib/python3/dist-packages/pip (python 3.12)
samru@LAPTOP-1J96A07J:~/test$ |
```

```
samru@LAPTOP-1J96A07J:~/test$ sudo apt install -y openjdk-17-jdk
java -version
Reading package lists... Done
Building dependency tree... Done
```

```
update-alternatives: using /usr/lib/jvm/java-17-openjdk-amd64/bin/serialver to provide /usr/bin/serialver in auto mode
update-alternatives: using /usr/lib/jvm/java-17-openjdk-amd64/bin/jhsdb to provide /usr/bin/jhsdb (jhsdb) in auto mode
Setting up openjdk-17-jdk:amd64 (17.0.16+8~us1-0ubuntu1~24.04.1) ...
update-alternatives: using /usr/lib/jvm/java-17-openjdk-amd64/bin/jconsole to provide /usr/bin/jconsole (jconsole) in auto mode
openjdk version "17.0.16" 2025-07-15
OpenJDK Runtime Environment (build 17.0.16+8-Ubuntu-0ubuntu124.04.1)
OpenJDK 64-Bit Server VM (build 17.0.16+8-Ubuntu-0ubuntu124.04.1, mixed mode, sharing)
samru@LAPTOP-1J96A07J:~/test$
```

ChatGPT can make mistakes. Check important info. See [Cookie Preferences](#).



Search



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\samru> wsl --install -d Ubuntu
Downloading: Ubuntu
[=====69.7%=====] |
```

```
PS C:\Users\samru> wsl --install -d Ubuntu
Downloading: Ubuntu
Installing: Ubuntu
A distribution with the supplied name already exists. Use --name to chose a different name.
Error code: Wsl/InstallDistro/Service/RegisterDistro/ERROR_ALREADY_EXISTS
PS C:\Users\samru> |
```

```
PS C:\Users\samru> wsl -l -v
NAME      STATE      VERSION
* Ubuntu   Stopped    2
PS C:\Users\samru> |
```

```
* Ubuntu   Stopped    2
PS C:\Users\samru> wsl -d Ubuntu
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.6.87.2-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Mon Sep  1 03:03:59 UTC 2025

System load:  0.0           Processes:            60
Usage of /:   0.2% of 1006.85GB Users logged in:      0
Memory usage: 11%          IPv4 address for eth0: 172.20.36.130
Swap usage:   0%

This message is shown once a day. To disable it please create the
/home/samru/.hushlogin file.
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ |
```

```
[sudo] password for samru:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.6 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.2 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:8 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [212 B]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1379 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1471 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:15 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7052 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [19.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 3882 kB in 5s (801 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$
```

```
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 24.04.3 LTS
Release:        24.04
Codename:       noble
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ |
```

```

Get:16 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [19.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 3882 kB in 5s (801 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu 24.04.3 LTS
Release: 24.04
Codename: noble
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ git --version
git version 2.43.0
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ curl --version
curl 8.5.0 (x86_64-pc-linux-gnu) libcurl/8.5.0 OpenSSL/3.0.13 zlib/1.3 brotli/1.1.0 zstd/1.5.5 libidn2/2.3.7 libpsl/0.21
.2 (+libidn2/2.3.7) libssh/0.10.6/openssl/zlib nghttp2/1.59.0 librtmp/2.3 OpenLDAP/2.6.7
Release-Date: 2023-12-06, security patched: 8.5.0-2ubuntu10.6
Protocols: dict file ftp ftps gopher gophers http https imap imaps ldap ldaps mqtt pop3 pop3s rtmp rtsp scp sftp smb smb
s smtp smtps telnet tftp
Features: alt-svc AsynchDNS brotli GSS-API HSTS HTTP2 HTTPS-proxy IDN IPv6 Kerberos Largefile libz NTLM PSL SPNEGO SSL t
hreadsafe TLS-SRP UnixSockets zstd
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$
samru@LAPTOP-1J96A07J:/mnt/c/Users/samru$ mkdir ~/linux_lab
cd ~/linux_lab
mkdir ~/linux_lab
cd ~/linux_lab
mkdir: cannot create directory '/home/samru/linux_lab': File exists
samru@LAPTOP-1J96A07J:~/linux_lab$ pwd
/home/samru/linux_lab
samru@LAPTOP-1J96A07J:~/linux_lab$

```

Linux Mint

Basic
Expert

General

System

Display

Storage

Audio

Network

Serial Ports

USB

Shared Folders

User Interface

Search settings

Display

Screen Remote Display Recording

Video Memory

0 MB 128 MB

16 MB

Number of Virtual Monitors

1 8

1

Scale Factor

All Monitors

100% 225%

100%

Graphics Controller

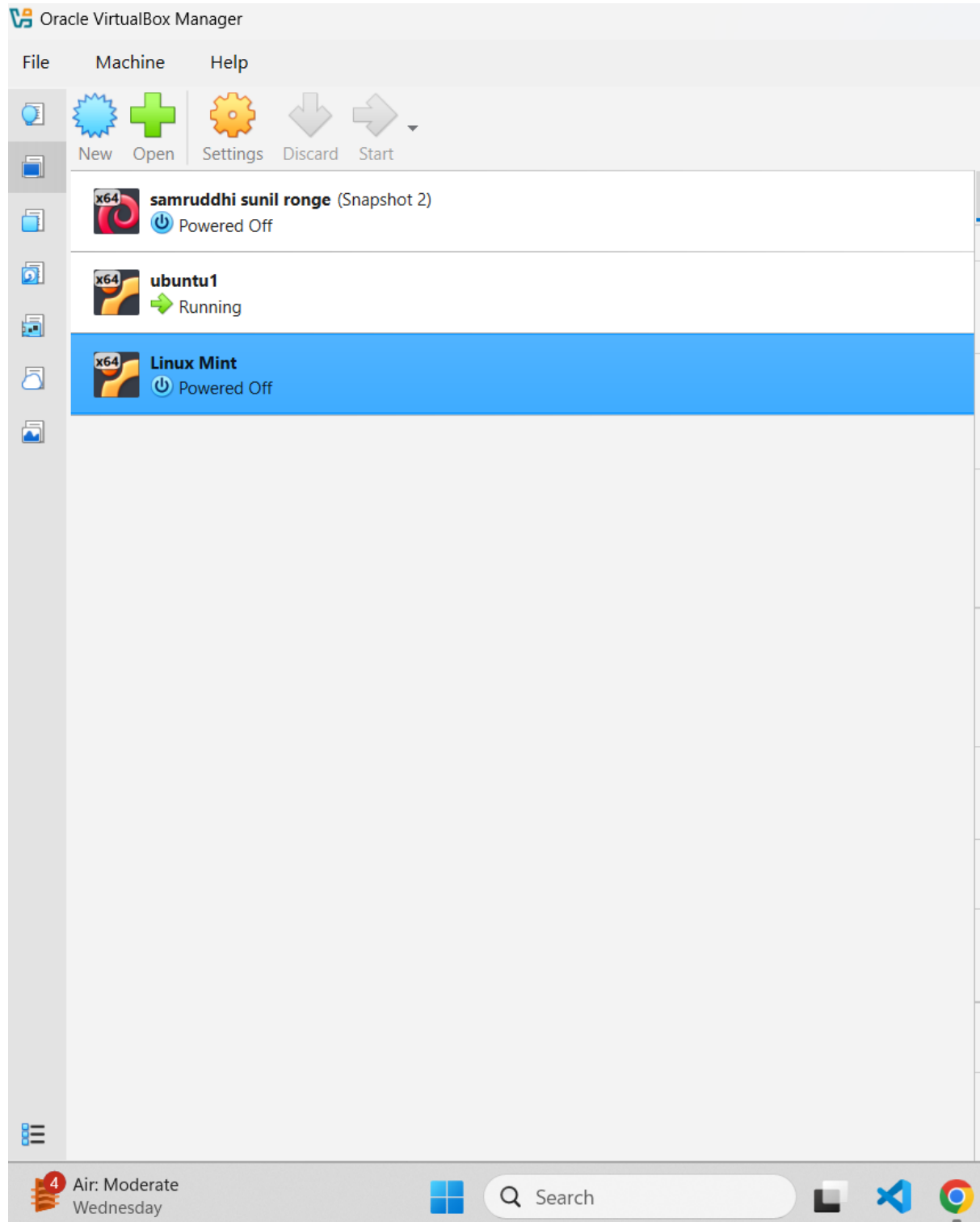
VMSVGA

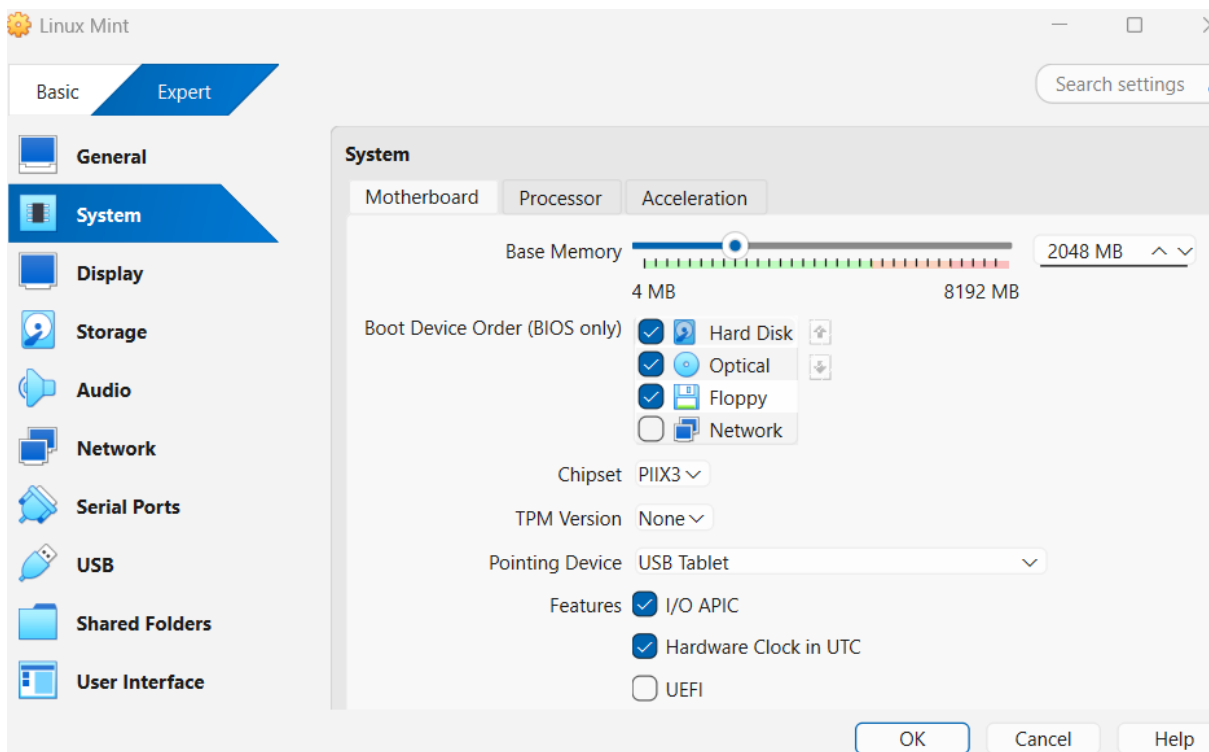
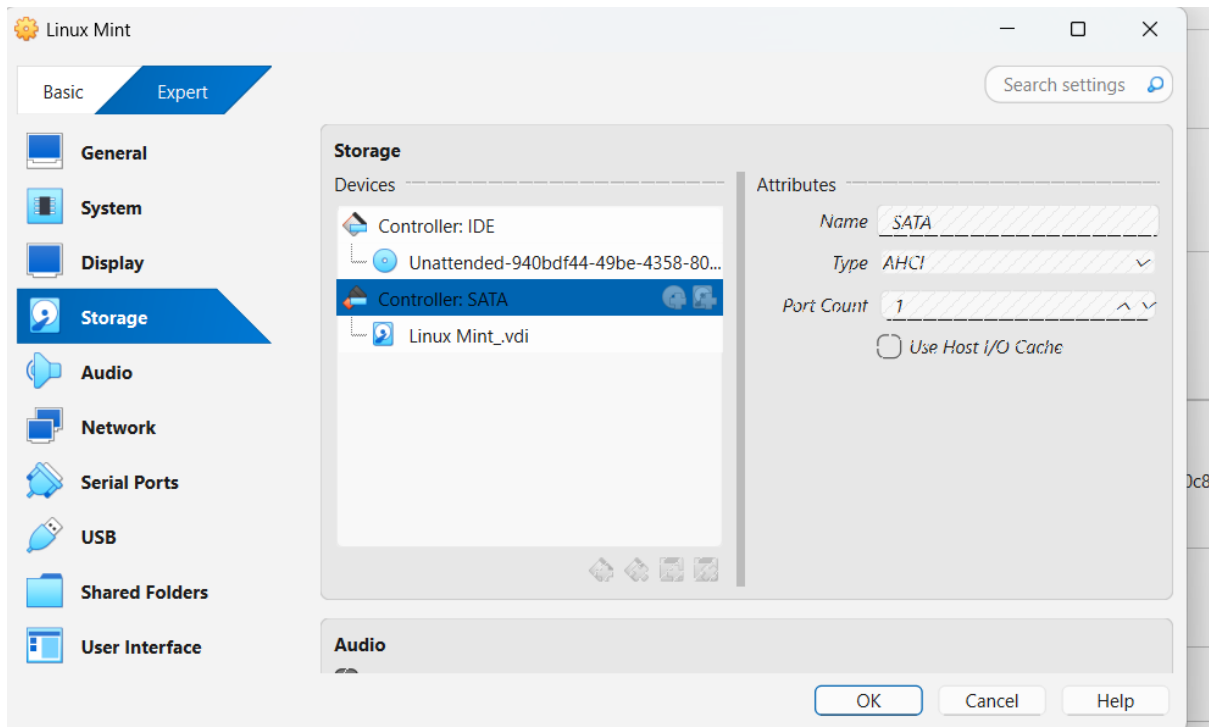
Features

☐ 3D Acceleration

OK Cancel Help

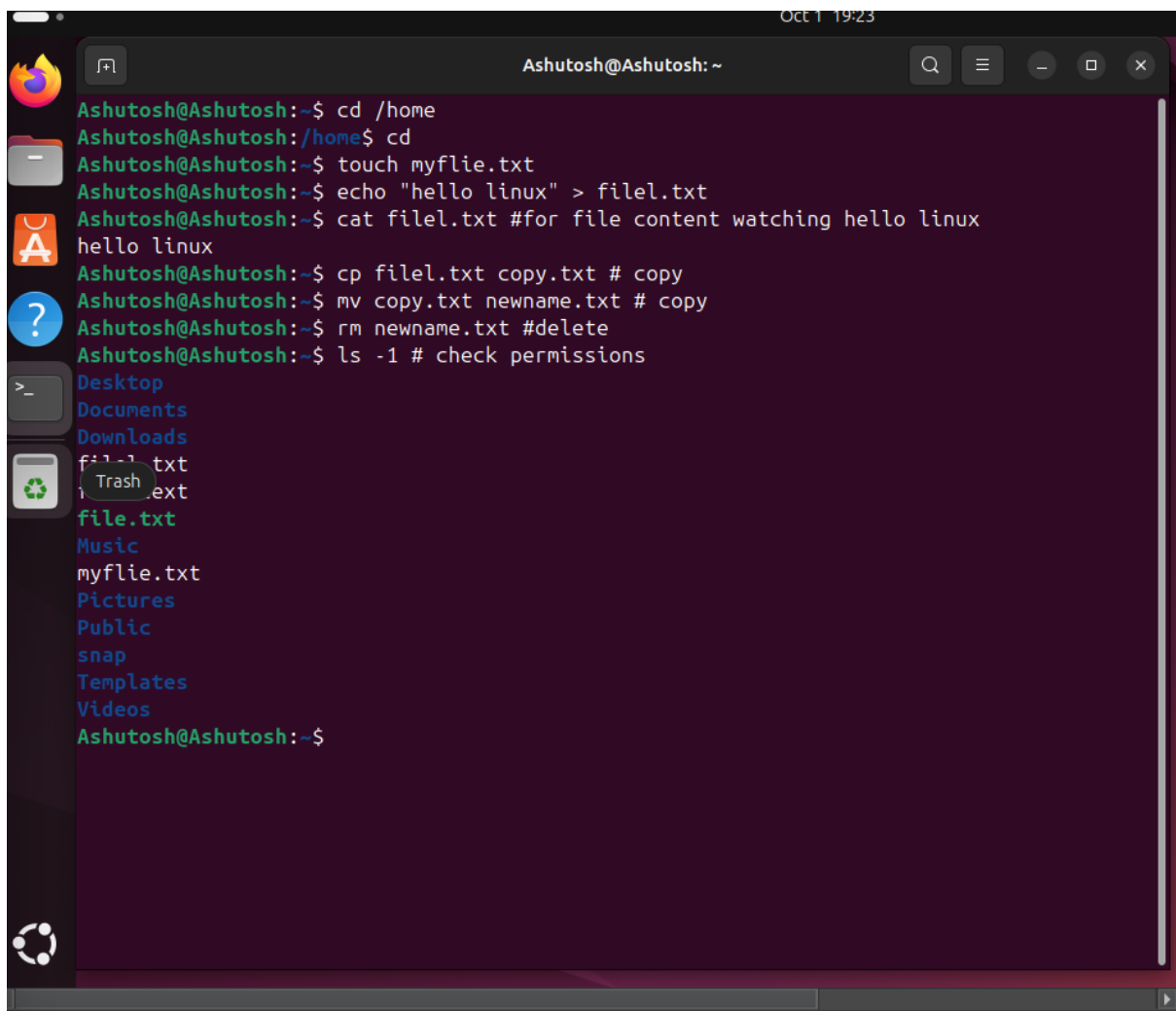
LOCATION	MIRROR
World	Cicku
World	Linux Mint





EXPERIMENT :2

```
Oct 1 19:13
Ashutosh@Ashutosh: /
Ashutosh@Ashutosh:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
Ashutosh@Ashutosh:~$ pwd
/home/Ashutosh
Ashutosh@Ashutosh:~$ cd /
Ashutosh@Ashutosh:/$
Ashutosh@Ashutosh:/$ ls
bin          dev  lib64      mnt  run          srv  var
bin.usr-is-merged etc  lib.usr-is-merged opt  sbin         sys
boot         home lost+found  proc sbin.usr-is-merged tmp
cdrom        lib  media      root snap         usr
Ashutosh@Ashutosh:/$ touch test.txt
touch: cannot touch 'test.txt': Permission denied
Ashutosh@Ashutosh:/$ ls -l
bin
bin.usr-is-merged
boot
cdrom
dev
etc
home
lib
lib64
lib.usr-is-merged
lost+found
media
mnt
opt
proc
root
run
sbin
```

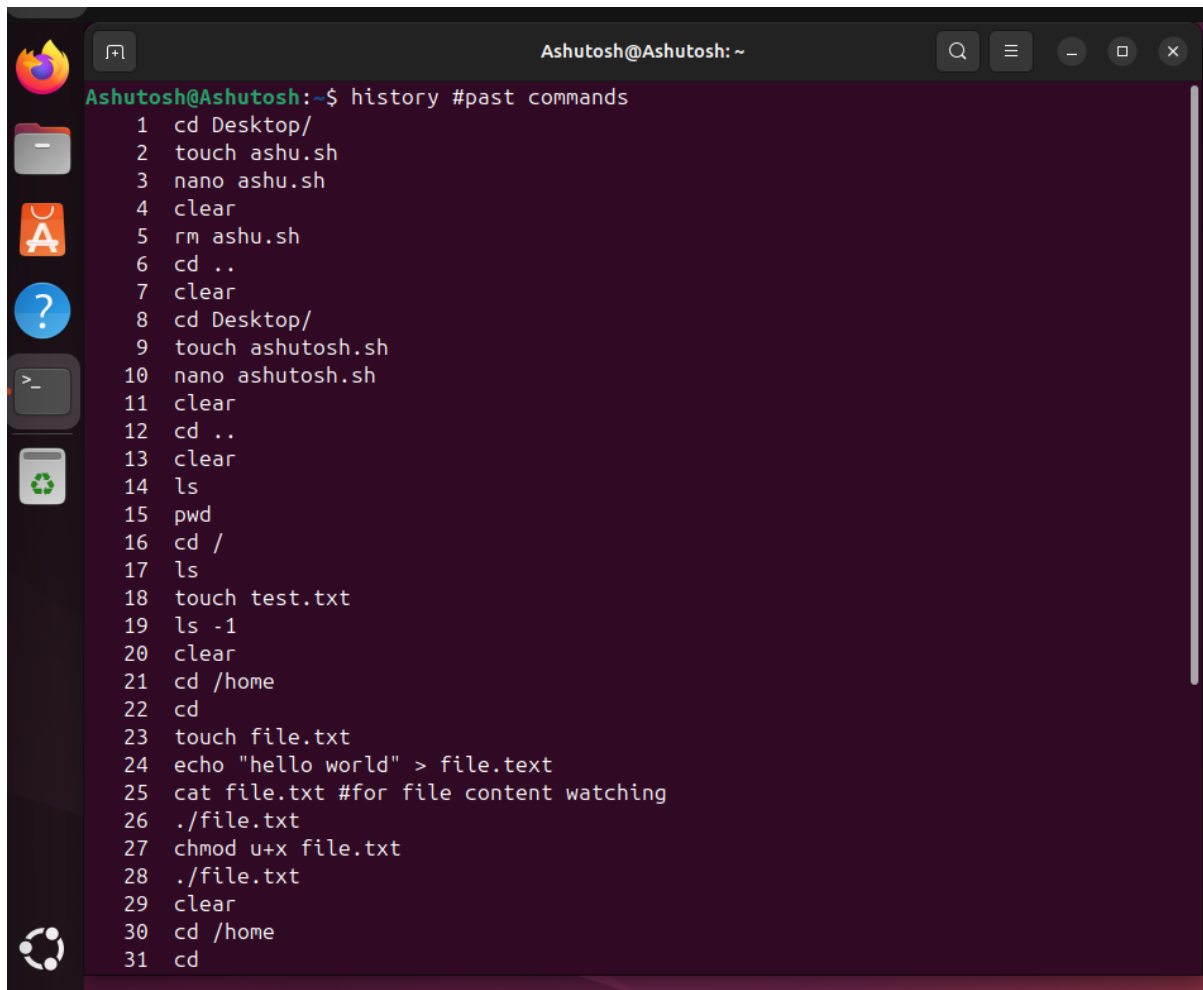


A screenshot of a Linux terminal window titled "Ashutosh@Ashutosh: ~". The window has a dark purple background and a sidebar on the left with icons for the Dash application, Home folder, Applications, and Trash. The terminal shows a series of commands and their outputs:

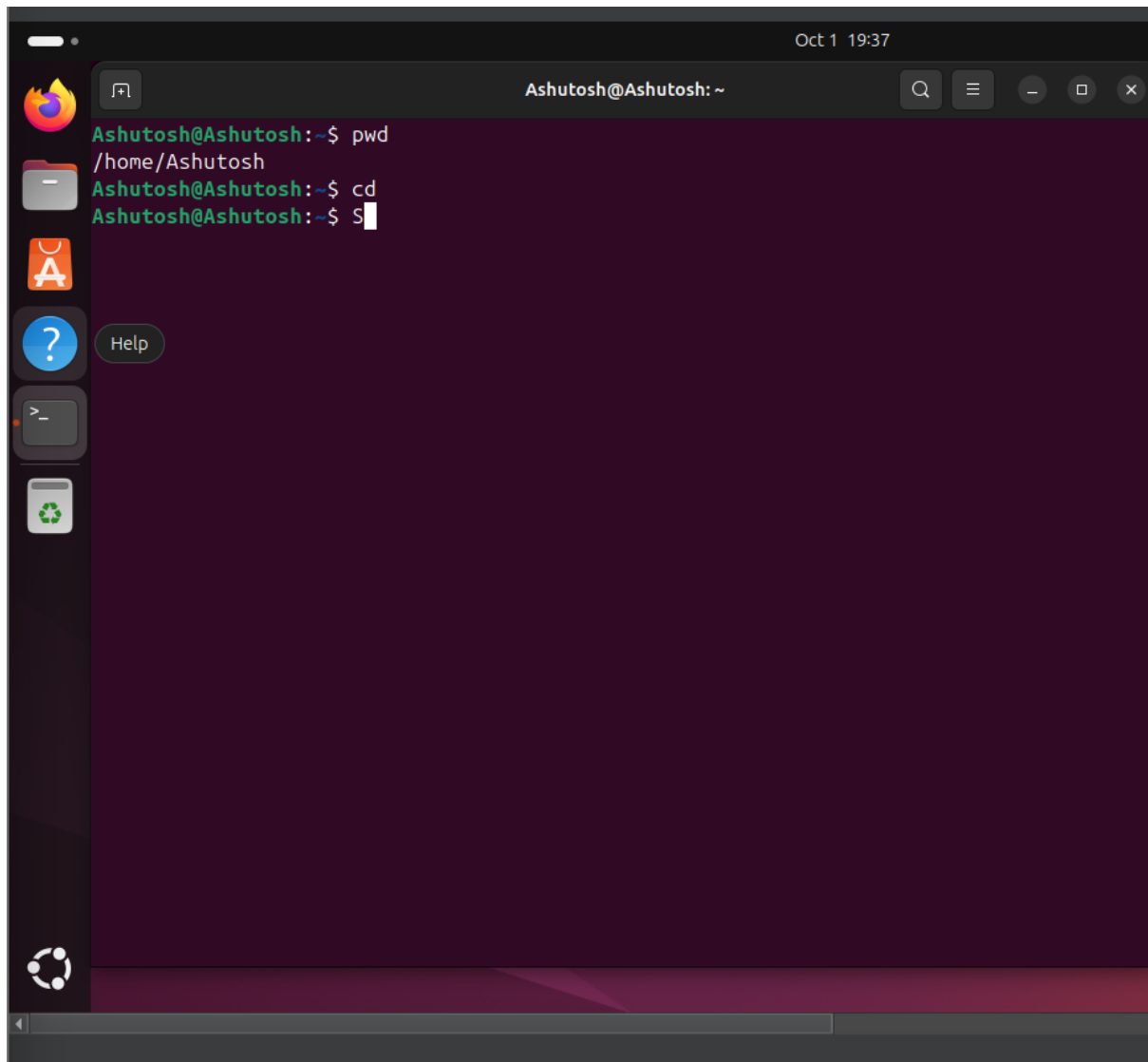
```
Ashutosh@Ashutosh:~$ cd /home
Ashutosh@Ashutosh:/home$ cd
Ashutosh@Ashutosh:~$ touch myflie.txt
Ashutosh@Ashutosh:~$ echo "hello linux" > filel.txt
Ashutosh@Ashutosh:~$ cat filel.txt #for file content watching hello linux
hello linux
Ashutosh@Ashutosh:~$ cp filel.txt copy.txt # copy
Ashutosh@Ashutosh:~$ mv copy.txt newname.txt # copy
Ashutosh@Ashutosh:~$ rm newname.txt #delete
Ashutosh@Ashutosh:~$ ls -l # check permissions
```

The output of the `ls -l` command is displayed in a light blue color:

```
Desktop
Documents
Downloads
filel.txt
myflie.txt
newname.txt
Pictures
Public
snap
Templates
Videos
Ashutosh@Ashutosh:~$
```

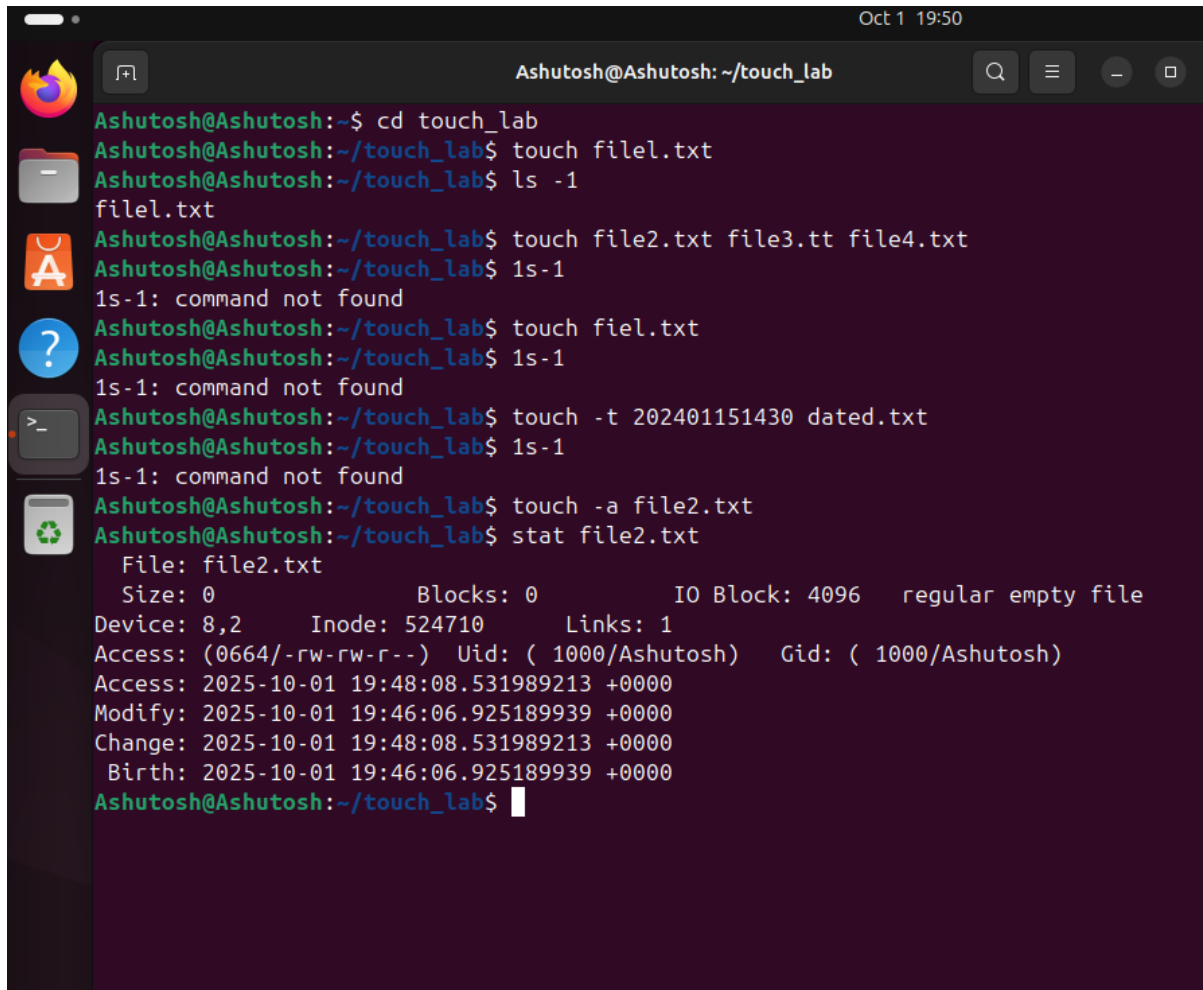
A terminal window titled "Ashutosh@Ashutosh: ~" with standard window controls. The terminal displays the command "history #past commands" and a list of 31 numbered commands. The left sidebar shows desktop icons for Firefox, Files, Applications, Help, Terminal, and Recycle Bin. The bottom-left corner features a circular refresh icon.

```
Ashutosh@Ashutosh:~$ history #past commands
1 cd Desktop/
2 touch ashu.sh
3 nano ashu.sh
4 clear
5 rm ashu.sh
6 cd ..
7 clear
8 cd Desktop/
9 touch ashutosh.sh
10 nano ashutosh.sh
11 clear
12 cd ..
13 clear
14 ls
15 pwd
16 cd /
17 ls
18 touch test.txt
19 ls -l
20 clear
21 cd /home
22 cd
23 touch file.txt
24 echo "hello world" > file.txt
25 cat file.txt #for file content watching
26 ./file.txt
27 chmod u+x file.txt
28 ./file.txt
29 clear
30 cd /home
31 cd
```



EXPERIEMENT 3

Basic File Operations



A screenshot of a Linux terminal window titled "Ashutosh@Ashutosh: ~/touch_lab". The window shows a series of commands and their outputs for creating and managing files. The terminal has a dark background with light-colored text. On the left side, there is a vertical sidebar with icons for a file manager, a terminal, and a trash bin. The terminal output shows the user navigating to the "touch_lab" directory, creating "file1.txt", listing files, creating "file2.txt", "file3.tt", and "file4.txt", attempting to run "ls -1" (which fails with "command not found"), creating "fiel.txt" (typo for file1.txt), attempting to run "ls -1" again (failing), creating "dated.txt" with a timestamp, attempting to run "ls -1" again (failing), updating permissions on "file2.txt", and finally running "stat file2.txt" to display detailed file information.

```
Ashutosh@Ashutosh:~$ cd touch_lab
Ashutosh@Ashutosh:~/touch_lab$ touch file1.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -1
file1.txt
Ashutosh@Ashutosh:~/touch_lab$ touch file2.txt file3.tt file4.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -1
ls-1: command not found
Ashutosh@Ashutosh:~/touch_lab$ touch fiel.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -1
ls-1: command not found
Ashutosh@Ashutosh:~/touch_lab$ touch -t 202401151430 dated.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -1
ls-1: command not found
Ashutosh@Ashutosh:~/touch_lab$ touch -a file2.txt
Ashutosh@Ashutosh:~/touch_lab$ stat file2.txt
  File: file2.txt
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 8,2      Inode: 524710      Links: 1
Access: (0664/-rw-rw-r--)  Uid: ( 1000/Ashutosh)   Gid: ( 1000/Ashutosh)
Access: 2025-10-01 19:48:08.531989213 +0000
Modify: 2025-10-01 19:46:06.925189939 +0000
Change: 2025-10-01 19:48:08.531989213 +0000
 Birth: 2025-10-01 19:46:06.925189939 +0000
Ashutosh@Ashutosh:~/touch_lab$
```

```
Oct 1 19:55
Ashutosh@Ashutosh: ~/touch_lab
Ashutosh@Ashutosh:~/touch_lab$ touch -a file2.txt
Ashutosh@Ashutosh:~/touch_lab$ stat file2.txt
  File: file2.txt
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 8,2      Inode: 524710       Links: 1
Access: (0664/-rw-rw-r--)  Uid: ( 1000/Ashutosh)   Gid: ( 1000/Ashutosh)
Access: 2025-10-01 19:53:00.470997542 +0000
Modify: 2025-10-01 19:46:06.925189939 +0000
Change: 2025-10-01 19:53:00.470997542 +0000
 Birth: 2025-10-01 19:46:06.925189939 +0000
Ashutosh@Ashutosh:~/touch_lab$ touch -m file3.txt
Ashutosh@Ashutosh:~/touch_lab$ stat file3.txt
  File: file3.txt
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 8,2      Inode: 524717       Links: 1
Access: (0664/-rw-rw-r--)  Uid: ( 1000/Ashutosh)   Gid: ( 1000/Ashutosh)
Access: 2025-10-01 19:53:34.853975570 +0000
Modify: 2025-10-01 19:53:34.853975570 +0000
Change: 2025-10-01 19:53:34.853975570 +0000
 Birth: 2025-10-01 19:53:34.853975570 +0000
Ashutosh@Ashutosh:~/touch_lab$ touch -c nofile.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -l
ls: command not found
Ashutosh@Ashutosh:~/touch_lab$
```

```
Oct 1 20:19
Ashutosh@Ashutosh: ~/touch_lab

Ashutosh@Ashutosh:~/touch_lab$ cd ..
Ashutosh@Ashutosh:~$ pwd/homeAshutosh
bash: pwd/homeAshutosh: No such file or directory
Ashutosh@Ashutosh:~$ mkdirvtouch lab
mkdirvtouch: command not found
Ashutosh@Ashutosh:~$ cd touch lab
bash: cd: too many arguments
Ashutosh@Ashutosh:~$ cd touch_lab
Ashutosh@Ashutosh:~/touch_lab$ touch file1.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -l
dated.txt
file1.txt
file2.txt
file3.txt
file3.txt
file4.txt
file1.txt
Ashutosh@Ashutosh:~/touch_lab$ touch file2.txt file3.txt file4.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -l
ls: command not found
Ashutosh@Ashutosh:~/touch_lab$ touch file1.txt
Ashutosh@Ashutosh:~/touch_lab$ touch -t 202401151430 dated.txt
Ashutosh@Ashutosh:~/touch_lab$ ls -l
ls-l: command not found
Ashutosh@Ashutosh:~/touch_lab$ touch -a file2.txt
Ashutosh@Ashutosh:~/touch_lab$ stat file2.txt
  File: file2.txt
  Size: 0          Blocks: 0          IO Block: 4096   regular empty file
Device: 8,2      Inode: 524710      Links: 1
Access: (0664/-rw-rw-r--)  Uid: ( 1000/Ashutosh)   Gid: ( 1000/Ashutosh)
Access: 2025-10-01 20:14:54.212070070 +0000
Modify: 2025-10-01 20:12:38.604664535 +0000
Change: 2025-10-01 20:14:54.212070070 +0000
```



```
Oct 1 20:44
Ashutosh@Ashutosh: ~/cp_experiment

Ashutosh@Ashutosh:~/cp_experiment$ ls
important.txt  important.txt
Ashutosh@Ashutosh:~/cp_experiment$ cat important.txt
This file is important
Ashutosh@Ashutosh:~/cp_experiment$ touch document.txt
Ashutosh@Ashutosh:~/cp_experiment$ cp document.txt backup
Ashutosh@Ashutosh:~/cp_experiment$ cp document.txt backup_document.txt
Ashutosh@Ashutosh:~/cp_experiment$ ls
backup  backup_document.txt  document.txt  important.txt  important.txt
Ashutosh@Ashutosh:~/cp_experiment$ echo "this is document" > document.txt
Ashutosh@Ashutosh:~/cp_experiment$ echo "this is document" > backup_document.txt
Ashutosh@Ashutosh:~/cp_experiment$ cat backup_document.txt
this is document
Ashutosh@Ashutosh:~/cp_experiment$ mkdir backup
mkdir: cannot create directory 'backup': File exists
Ashutosh@Ashutosh:~/cp_experiment$ ls backup
backup
Ashutosh@Ashutosh:~/cp_experiment$ cp -p important.txt important_backup.txt
Ashutosh@Ashutosh:~/cp_experiment$ ls -l important.txt important_backup.txt
-rw-rw-r-- 1 Ashutosh Ashutosh 23 Oct 1 20:33 important_backup.txt
-rw-rw-r-- 1 Ashutosh Ashutosh 23 Oct 1 20:33 important.txt
Ashutosh@Ashutosh:~/cp_experiment$ cp -i document.txt backup_document.txt
cp: overwrite 'backup_document.txt'?
Ashutosh@Ashutosh:~/cp_experiment$ cp -v document.txt backup/
Command 'cp-v' not found, did you mean:
  command 'cpsv' from deb runit (2.1.2-54+usrmergeubuntu1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~/cp_experiment$ cp -v document.txt backup/
cp: cannot stat 'backup/': Not a directory
Ashutosh@Ashutosh:~/cp_experiment$ cp -u document.txt backup/
cp: cannot stat 'backup/': Not a directory
Ashutosh@Ashutosh:~/cp_experiment$ ls backup
```

```
Oct 1 21:02
Ashutosh@Ashutosh: ~

Ashutosh@Ashutosh:~$ touch file1.txt
Ashutosh@Ashutosh:~$ touch file2.txt
Ashutosh@Ashutosh:~$ touch file3.txt
Ashutosh@Ashutosh:~$ echo "Temporary file 1" > file1.txt
echoTemporary file 1: command not found
Ashutosh@Ashutosh:~$ echo "temporary file 2" > file2.txt
Ashutosh@Ashutosh:~$ echo "temporary file2" > file2.txt
Ashutosh@Ashutosh:~$ echo "temporary file2" > file3.txt
```

```
Oct 1 21:10
Ashutosh@Ashutosh: ~
Ashutosh@Ashutosh:~$ mkdir old_directory
Ashutosh@Ashutosh:~$ echo "inside old_directory" >old_directory/test.txt
Ashutosh@Ashutosh:~$ mkdir empty_directory
Ashutosh@Ashutosh:~$ ls
cp_experiment  empty_directory  file1.txt  myflie.txt  Public  Videos
Desktop        file1.txt        file.text  old_directory  snap
Documents      file2.txt        file.txt   old_dy       Templates
Downloads      file3.txt        Music      Pictures     touch_lab
Ashutosh@Ashutosh:~$ rm file1.txt
Ashutosh@Ashutosh:~$ rm file2.txt file3.txt
Ashutosh@Ashutosh:~$ rm -r old_directory/
```

```
Ashutosh@Ashutosh:~$ pwd/home/sankalp
bash: pwd/home/sankalp: No such file or directory
Ashutosh@Ashutosh:~$ mkdir mv_experiment
Ashutosh@Ashutosh:~$ mkdir mv_experiment
mkdir: cannot create directory 'mv_experiment': File exists
Ashutosh@Ashutosh:~$ cd mv_experiment
Ashutosh@Ashutosh:~/mv_experiment$ echo "this is file 1" > file1.txt
Ashutosh@Ashutosh:~/mv_experiment$ exho "this is file 2" > file2.txt
Command 'exho' not found, did you mean:
  command 'echo' from deb coreutils (9.4-3ubuntu6.1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~/mv_experiment$ echo "this is file 2" > file2.txt
Ashutosh@Ashutosh:~/mv_experiment$ echo "this is file 3" > file3.txt
Ashutosh@Ashutosh:~/mv_experiment$ echo "old content" > oldname.txt
Ashutosh@Ashutosh:~/mv_experiment$ ls
file1.txt  file2.txt  file3.txt  oldname.txt
Ashutosh@Ashutosh:~/mv_experiment$ mv oldname.txt newname.txt
Ashutosh@Ashutosh:~/mv_experiment$ ls
file1.txt  file2.txt  file3.txt  newname.txt
Ashutosh@Ashutosh:~/mv_experiment$ mkdir documents
Ashutosh@Ashutosh:~/mv_experiment$ mv newname.txt documents/
Ashutosh@Ashutosh:~/mv_experiment$ mkdir documents
mkdir: cannot create directory 'documents': File exists
Ashutosh@Ashutosh:~/mv_experiment$ mv newnwme.txt documents/
mv: cannot stat 'newnwme.txt': No such file or directory
Ashutosh@Ashutosh:~/mv_experiment$ ls document
ls: cannot access 'document': No such file or directory
Ashutosh@Ashutosh:~/mv_experiment$ mkdir backup
Ashutosh@Ashutosh:~/mv_experiment$ mv file.txt backup/new_file.txt
mv: cannot stat 'file.txt': No such file or directory
Ashutosh@Ashutosh:~/mv_experiment$ ls backup
```

```
Ashutosh@Ashutosh:~/mv_experiment$ ls backup
Ashutosh@Ashutosh:~/mv_experiment$ mkdir destination
Ashutosh@Ashutosh:~/mv_experiment$ mv -ifile2.txt destination/
mv: invalid option -- 'l'
Try 'mv --help' for more information.
Ashutosh@Ashutosh:~/mv_experiment$
```

Lab section 2:

```
Ashutosh@Ashutosh:~$ pwd/home/sankalp
bash: pwd/home/sankalp: No such file or directory
Ashutosh@Ashutosh:~$ mkdir mv_experiment
Ashutosh@Ashutosh:~$ mkdir mv_experiment
mkdir: cannot create directory 'mv_experiment': File exists
Ashutosh@Ashutosh:~$ cd mv_experiment
Ashutosh@Ashutosh:~/mv_experiment$ echo "this is file 1" > file1.txt
Ashutosh@Ashutosh:~/mv_experiment$ exho "this is file 2" > file2.txt
Command 'exho' not found, did you mean:
  command 'echo' from deb coreutils (9.4-3ubuntu6.1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~/mv_experiment$ echo "this is file 2" > file2.txt
Ashutosh@Ashutosh:~/mv_experiment$ echo "this is file 3" > file3.txt
Ashutosh@Ashutosh:~/mv_experiment$ echo "old content" > oldname.txt
Ashutosh@Ashutosh:~/mv_experiment$ ls
file1.txt  file2.txt  file3.txt  oldname.txt
Ashutosh@Ashutosh:~/mv_experiment$ mv oldname.txt newname.txt
Ashutosh@Ashutosh:~/mv_experiment$ ls
file1.txt  file2.txt  file3.txt  newname.txt
Ashutosh@Ashutosh:~/mv_experiment$ mkdir documents
Ashutosh@Ashutosh:~/mv_experiment$ mv newname.txt documents/
Ashutosh@Ashutosh:~/mv_experiment$ mkdir documents
mkdir: cannot create directory 'documents': File exists
Ashutosh@Ashutosh:~/mv_experiment$ mv newnwme.txt documents/
mv: cannot stat 'newnwme.txt': No such file or directory
Ashutosh@Ashutosh:~/mv_experiment$ ls document
ls: cannot access 'document': No such file or directory
Ashutosh@Ashutosh:~/mv_experiment$ mkdir backup
Ashutosh@Ashutosh:~/mv_experiment$ mv file.txt backup/new_file.txt
mv: cannot stat 'file.txt': No such file or directory
Ashutosh@Ashutosh:~/mv_experiment$ ls backup
```

```
/home/Ashutosh/touch_lab/file2.txt
/home/Ashutosh/file.txt
/home/Ashutosh/myflie.txt
/home/Ashutosh/important.txt
Ashutosh@Ashutosh:~/chown_experiment$ grep -i "error" logfile.txt
grep: logfile.txt: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep "todo" *.txt
grep: *.txt: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep -r "function" home/user/code/
grep: home/user/code/: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep -n "pattern" file.txt
grep: file.txt: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep -w "cat" amais.txt
grep: amais.txt: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep -v "debug" logfile.txt
grep: logfile.txt: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep -c "error" logfile.txt
grep: logfile.txt: No such file or directory
Ashutosh@Ashutosh:~/chown_experiment$ grep -o "email[0-9a-z.-]*"contact
```

EXPERIMENT 4

```
Ashutosh@Ashutosh:~$ echo "hello, world!"
hello, world!
Ashutosh@Ashutosh:~$
```

```
Ashutosh@Ashutosh:~$ echo "20:"
20:
Ashutosh@Ashutosh:~$ "addition: $((20 + 20)) "
addition: 40 : command not found
Ashutosh@Ashutosh:~$ "substarction: $((20 - 20))"
substarction: 0: command not found
Ashutosh@Ashutosh:~$ "multiplication : $((20 / 20))"
multiplication : 1: command not found
Ashutosh@Ashutosh:~$ echi "division: $((20 / 20))"
Command 'echi' not found, did you mean:
  command 'echo' from deb coreutils (9.4-3ubuntu6.1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~$
```

```
Ashutosh@Ashutosh:~$ echo "19:"
19:
Ashutosh@Ashutosh:~$ if [ $age +ge 18 ]
> then
> echo "you are elligibleto vote."
> else
> echo "sorry, you are not eligible to vote."
> ^C
Ashutosh@Ashutosh:~$
```

```
Ashutosh@Ashutosh:~$ echo "ashutosh:"
ashutosh:
Ashutosh@Ashutosh:~$ echo "hello, $ashutosh! welcome to shell scripting."
hello, ! welcome to shell scripting.
Ashutosh@Ashutosh:~$
```

EXPERIMENT 5:

```
Ashutosh@Ashutosh:~$ echo "20:"
20:
Ashutosh@Ashutosh:~$ sum=0
Ashutosh@Ashutosh:~$ while [ $sum -gt 0 ]
> do
> digit=$((num % 10))
> sum=$((sum + digit))
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ num=$((num / 10))
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ done
bash: syntax error near unexpected token `done'
Ashutosh@Ashutosh:~$ echo "sum of digits: $sum"
sum of digits: 0
Ashutosh@Ashutosh:~$
```

```
Ashutosh@Ashutosh:~$ echo "2:"
2:
Ashutosh@Ashutosh:~$ temp=$sum
Ashutosh@Ashutosh:~$ n=${lnum}
Ashutosh@Ashutosh:~$ sum=0
Ashutosh@Ashutosh:~$ while[ temp -gt 0]
dwhile[ temp -gt 0]: command not found
Ashutosh@Ashutosh:~$ do
bash: syntax error near unexpected token `do'
Ashutosh@Ashutosh:~$ digit=$((temp % 10 ))
Ashutosh@Ashutosh:~$ sum=$((sum + digit**n))
Ashutosh@Ashutosh:~$ temp=$((temp / 10))
Ashutosh@Ashutosh:~$ if [ sum -eq $sum ]
> then
> echo"$num is an armstrong number."
> else
> echo"$num is not an armstrong number"
> fi
bash: [: sum: integer expression expected
echo is not an armstrong number: command not found
Ashutosh@Ashutosh:~$
```



```
Ashutosh@Ashutosh:~$ flag=0
Ashutosh@Ashutosh:~$ for ((i+=2; i<=num2; i++))
> do
> if [ $(num % i) -eq 0 ]
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ then
bash: syntax error near unexpected token `then'
Ashutosh@Ashutosh:~$ flag=1
Ashutosh@Ashutosh:~$ break
bash: break: only meaningful in a `for', `while', or `until' loop
Ashutosh@Ashutosh:~$ fi
bash: syntax error near unexpected token `fi'
Ashutosh@Ashutosh:~$ done
bash: syntax error near unexpected token `done'
Ashutosh@Ashutosh:~$ if [ $flag -eq 0 ]
> then
> echo "$num is not a prime number."
> else
> echo "$num is not a prime number."
> fi
[1: command not found
echo is not a prime number.: command not found
Ashutosh@Ashutosh:~$
```

EXPERIMENT 6:


```
Ashutosh@Ashutosh:~$ lcm ; cm
Command 'lcm' not found, but there are 16 similar ones.
cm: command not found
Ashutosh@Ashutosh:~$ echoo
Command 'echoo' not found, did you mean:
  command 'echo' from deb coreutils (9.4-3ubuntu6.1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~$ echo 2 3 5 7 9 ;"
> read -a arr
> echp "acending order: "
> printf "%s\n* "${arr{0}}}" |
> sort -n
2 3 5 7 9
bash: ${arr{0}}: bad substitution
Ashutosh@Ashutosh:~$ echo "decending order;"
decending order;
Ashutosh@Ashutosh:~$ printf%s\n* "${arr{0}}}" | sort -nr
> 5 7 9
>
> read -a arr
> echo acending: command not found
> ^C
Ashutosh@Ashutosh:~$ █
```

```
Ashutosh@Ashutosh:~$ greet "ashutosh"
Command 'greet' not found, did you mean:
  command 'greed' from deb greed (4.2-1)
  command 'greetd' from deb greetd (0.9.0-4ubuntu1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~$ ehco"hello 123" [grep -E "(a-z)-(0-9)-"
ehcohello 123: command not found
Ashutosh@Ashutosh:~$ echo "debug: variable =$var
> ^C
Ashutosh@Ashutosh:~$ echo "201"
201
Ashutosh@Ashutosh:~$ rev=0
Ashutosh@Ashutosh:~$ temp=4num
Ashutosh@Ashutosh:~$ temp=520
Ashutosh@Ashutosh:~$ while [ stemp -gt 0 ]
> do
> digit=$((temp % 10))
> rev=$((rev * 10 + digit))
> temp=$((temp / 10))
> done^C
Ashutosh@Ashutosh:~$ /desktop id [ $num -eq $rev ]
bash: /desktop: No such file or directory
Ashutosh@Ashutosh:~$ then
bash: syntax error near unexpected token `then'
```

```
Ashutosh@Ashutosh:~$ else
bash: syntax error near unexpected token `else'
Ashutosh@Ashutosh:~$ echo "world" >> file.txt
Ashutosh@Ashutosh:~$ catr < file.txt
Command 'catr' not found, did you mean:
  command 'cstr' from deb liwc (1.21-2)
  command 'car' from deb ucommon-utils (7.0.1-0.1)
  command 'cat' from deb coreutils (9.4-3ubuntu6.1)
  command 'catm' from deb mescc-tools (1.4.0-1)
  command 'ctr' from deb containerd (1.7.27-0ubuntu1~24.04.1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~$ cat < file.txt
world
Ashutosh@Ashutosh:~$ ls /noteexist 2> error.log
Ashutosh@Ashutosh:~$ greet () {
> echo " hello $1"
> }^C
Ashutosh@Ashutosh:~$ greet "ashutosh"
Command 'greet' not found, did you mean:
  command 'greetd' from deb greetd (0.9.0-4ubuntu1)
  command 'greed' from deb greed (4.2-1)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~$ ehco "ehllo1213" |grep -E"[a-z]+[0-9]+"
> 
```

```
Ashutosh@Ashutosh:~$ for io
> for 1 in{1...5}
bash: syntax error near unexpected token `for'
Ashutosh@Ashutosh:~$ do
bash: syntax error near unexpected token `do'
Ashutosh@Ashutosh:~$ if [ $i -eq 3 ]: then
> continue
> fi
bash: syntax error near unexpected token `fi'
Ashutosh@Ashutosh:~$ 5
5: command not found
Ashutosh@Ashutosh:~$ done
bash: syntax error near unexpected token `done'
Ashutosh@Ashutosh:~$ echo "hello" <file.txt
hello
Ashutosh@Ashutosh:~$ echo "world" >> file.txt
Ashutosh@Ashutosh:~$ cat < file.txt
world
world
Ashutosh@Ashutosh:~$
```

```
Ashutosh@Ashutosh:~$ while [ $1 -le 5 ] : do echo "5: $1": i=5((i-1)): done
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ i=1unitl { si -gt 5]
do
{: command not found
Ashutosh@Ashutosh:~$ do
bash: syntax error near unexpected token `do'
Ashutosh@Ashutosh:~$ echo "5: S1"
5: S1
Ashutosh@Ashutosh:~$ i=5((I+1))
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ done
bash: syntax error near unexpected token `done'
Ashutosh@Ashutosh:~$ for io
> for i in{1...5}
bash: syntax error near unexpected token `for'
Ashutosh@Ashutosh:~$ do
bash: syntax error near unexpected token `do'
Ashutosh@Ashutosh:~$ if [ $i -eq 3 0: then
> ^C
Ashutosh@Ashutosh:~$ if [ $i -eq 3 0]: then
> █
```

```
Ashutosh@Ashutosh:~$ while [ $1 -le 5 ] : do echo "5: $1": i=5((i-1)): done
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ i=1unitl { si -gt 5]
do
{: command not found
Ashutosh@Ashutosh:~$ do
bash: syntax error near unexpected token `do'
Ashutosh@Ashutosh:~$ echo "5: S1"
5: S1
Ashutosh@Ashutosh:~$ i=5((I+1))
bash: syntax error near unexpected token `('
Ashutosh@Ashutosh:~$ done
bash: syntax error near unexpected token `done'
Ashutosh@Ashutosh:~$ for io
> for i in{1...5}
bash: syntax error near unexpected token `for'
Ashutosh@Ashutosh:~$ do
bash: syntax error near unexpected token `do'
Ashutosh@Ashutosh:~$ if [ $i -eq 3 0: then
> ^C
Ashutosh@Ashutosh:~$ if [ $i -eq 3 0]: then
> █
```

Experiment 7:

```
Ashutosh@Ashutosh:~$ ps
  PID TTY          TIME CMD
  6202 pts/0    00:00:00 bash
  6708 pts/0    00:00:00 ps
Ashutosh@Ashutosh:~$
```

```
top - 15:30:32 up 4:57, 1 user, load average: 0.00, 0.05, 0.07
Tasks: 270 total, 2 running, 268 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.2 us, 0.3 sy, 0.0 ni, 99.3 id, 0.0 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 7258.5 total, 5159.2 free, 1090.3 used, 1282.4 buff/cache
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 6168.1 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2061	Ashutosh	20	0	5885940	414276	144028	S	7.5	5.6	13:28.68	gnome-s+
2	root	20	0	0	0	0	S	0.3	0.0	0:00.63	kthreadd
2468	Ashutosh	20	0	389376	7808	6912	S	0.3	0.1	0:02.43	gvfs-af+
3481	root	20	0	0	0	0	I	0.3	0.0	0:03.63	kworker+
3655	root	20	0	594944	42152	36512	S	0.3	0.6	0:04.51	fwupd
6678	root	20	0	0	0	0	D	0.3	0.0	0:00.14	kworker+
6710	Ashutosh	20	0	14536	5848	3672	R	0.3	0.1	0:00.06	top
1	root	20	0	23072	13540	9316	S	0.0	0.2	0:06.19	systemd
3	root	20	0	0	0	0	S	0.0	0.0	0:00.00	pool_wo+
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
8	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
11	root	0	-20	0	0	0	I	0.0	0.0	0:00.15	kworker+
12	root	20	0	0	0	0	I	0.0	0.0	0:00.00	kworker+
13	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+

```
Ashutosh@Ashutosh:~$ pstree
systemd--ModemManager--3*[{ModemManager}]
      --NetworkManager--3*[{NetworkManager}]
      --accounts-daemon--3*[{accounts-daemon}]
      --avahi-daemon--avahi-daemon
      --colord--3*[{colord}]
      --cron
      --cups-browsed--3*[{cups-browsed}]
      --cupsd--2*[{dbus}]
      --dbus-daemon
      --fwupd--5*[{fwupd}]
      --gdm3--gdm-session-wor--gdm-wayland-ses--gnome-session-b--3*[{gnom+
              |               |               |3*[{gdm-wayland-ses}]
              |               |3*[{gdm-session-wor}]
              |3*[{gdm3}]
      --gnome-remote-de--3*[{gnome-remote-de}]
      --gpg-agent
      --2*[{kerneloops}]
      --polkitd--3*[{polkitd}]
      --power-profiles--3*[{power-profiles-}]
      --rsyslogd--3*[{rsyslogd}]
      --rtkit-daemon--2*[{rtkit-daemon}]
      --snapd--11*[{snapd}]
      --switcheroo-cont--3*[{switcheroo-cont}]
```

Experiment 8:

```
while true; do
echo "1.start a background job"
echo "2.compare files"
echo "3.count processes of current user"
echo "4.monitor memory usage every 5 seconds"
echo "5.search pattern in a file and display count"
echo "6.exit"
echo "enter your choice[1-6:]"
read choice

case $choice in
1) echo"starting background job"
sleep 60 &
echo "background job started"
jobs
echo"bringing job to foreground"
fg%1
kill -INT $!
echo "job terminated"
;;
```



```
kill -INT $!
echo "job terminated"
;;
2)
echo "enter first file"
read file1
echo "enter a second file:"
read file2
if[-e "$file1" "$file2"];then
echo"files are different"
else
echo"files are different"
fi
else
echo"one or both files do not exist"
fi
;;
3)
process_count=$(ps -u $USER | wc-l)
echo"number of processes run by $USER : $processes_count"
```

```

process_count=$(ps -u $USER | wc -l)
echo "number of processes run by $USER : $processes_count"
;;
4) echo "monitoring memory usagae.press to stop"
while true; do
echo "-----$(date)-----">>memory_org.txt
free -m >> memory_log.txt
slepp 5
done
;;
5)
echo "enter s filename:"
read file
echo "enter s psttern to search:"
read pattern
if [-e "$file"];then
match_count=$(grep -c "$pattern" "$file")
match_count=$(grep -c "$pattern" "$file")
echo 'number of matching lines: $maych_count'
echo "erneter a filename:"

```

```

echo "erneter a filename:"
read file
echo "enter a pattern to search"
read pattern
if [-e "$file"];then
match_count=$(frep -c "$pattern" "$file")
echo "number of antching lines : $match_count"
else
echo "file not found!"
fi
;;
6)
echo "exiting"
exit 0
;; *)
echo "invalid choicee"
;;
esac
done

```

ASSIGNMENT 1:

```
Ashutosh@Ashutosh:~$ kill 1234
bash: kill: (1234) - No such process
Ashutosh@Ashutosh:~$ kill -9 1234
bash: kill: (1234) - No such process
Ashutosh@Ashutosh:~$ nice -n 10 sleep 60
echo "ls >output.txt" | at now +1 minute
^C
Ashutosh@Ashutosh:~$ renice 5 -p 1234
renice: failed to get priority for 1234 (process ID): No such process
Ashutosh@Ashutosh:~$ crontab -e
no crontab for Ashutosh - using an empty one
No modification made
Ashutosh@Ashutosh:~$ █
```

```
Ashutosh@Ashutosh:~$ kill -9 1234
bash: kill: (1234) - No such process
Ashutosh@Ashutosh:~$ nice -n 10 sleep 60
echo "ls >output.txt" | at now +1 minute
^C
Ashutosh@Ashutosh:~$ renice 5 -p 1234
renice: failed to get priority for 1234 (process ID): No such process
Ashutosh@Ashutosh:~$ crontab -e
no crontab for Ashutosh - using an empty one
No modification made
Ashutosh@Ashutosh:~$ nano check_file.sh
Ashutosh@Ashutosh:~$ nano +x check_file.sh
Ashutosh@Ashutosh:~$ nano + nano + check_file.sh
Ashutosh@Ashutosh:~$ ./check_file.sh
bash: ./check_file.sh: Permission denied
Ashutosh@Ashutosh:~$ bash check_file.sh
Ashutosh@Ashutosh:~$ enter filename:\
> ^C
Ashutosh@Ashutosh:~$ enter filename:
Command 'enter' not found, did you mean:
  command 'entr' from deb entr (5.3-1)
  command 'enber' from deb asn1c (0.9.28+dfsg-5)
Try: sudo apt install <deb name>
Ashutosh@Ashutosh:~$
```