

Experiment 3: Linux File Manipulation and System Manipulation I

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Aim:

- To practice Linux file manipulation commands like `touch`, `cp`, `mv`, `rm`, `cat`, `less`, `head`, `tail`.
- To explore file permissions and ownership with `ls -l`, `chmod`, `chown`, and `chgrp`.
- To search and filter files using `find` and `grep`.
- To understand archiving and compression with `tar`, `gzip`, and `gunzip`.
- To create and manage links (`ln`) for both hard and symbolic links.

Requirements

- A Linux machine with bash shell (Ubuntu/Fedora/other).
- User privileges to create, modify, and delete files and directories.
- Access to system utilities like `tar`, `gzip`, `grep`, and `find`.

Theory

Linux file management involves creating, copying, moving, removing, and viewing files. File permissions and ownership ensure secure access control. Searching and filtering tools like `grep` and `find` help locate information efficiently. Archiving with `tar` and compression with `gzip` reduce storage usage and simplify file transfer. Links (`ln`) allow multiple references to the same file data (hard links) or path references (symbolic links).

Procedure & Observations

Exercise 1: Creating and Managing Files

Task Statement:

Create files and manage timestamps using `touch`.

Command(s):

```
touch myfile.txt
touch file1.txt file2.txt file3.txt
```

Output:

```
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ touch myfile.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ ls
exp2  documents  exp2  myfile.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ touch file1.txt file2.txt file3.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ ls
exp2  documents  exp2  file1.txt  file2.txt  file3.txt  myfile.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ touch document_$(date +%Y%m%d).txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ touch document_$(13september2025 +%2025
13september2025: command not found
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ touch document_$(date +%2025%09%13).txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ ls
%13.txt %20250000000%09 exp2 document_ document_.txt document_20250912.txt documents exp2 file1.txt file2.txt file3
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/LINUX EXPERIMENTS$ |
```

Exercise 2: Copying, Moving, and Deleting Files

Task Statement:

Use cp, mv, and rm to copy, rename, move, and delete files and directories.

Command(s):

```
cp document.txt backup_document.txt
mv oldname.txt newname.txt
rm unwanted_file.txt
rm -r old_directory/
```

The image shows a Windows desktop environment. At the top, there is a taskbar with a search bar and several application icons including File Explorer, Edge, and various utility tools. Below the taskbar, a terminal window is open, displaying a series of Linux commands and their outputs. The terminal prompt is consistently 'vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux\$'. The commands include file copying ('cp'), file touching ('touch'), directory creation ('mkdir'), and file removal ('rm'). The outputs show various file names and directory structures, some with green highlights. The desktop background is a light blue gradient. In the bottom left corner, a weather widget shows '1 cm of rain' and 'Sunday'. The bottom right corner features a system tray with icons for network, volume, and power.

```
vaishnavii29@DESKTOP-BSKS
Windows PowerShell
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PS C:\Users\DELL\Desktop\New folder\linux> wsl
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ mv file3 dir1
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls dir1
file3
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ mv file2 file4 dir2
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls dir2
file2 file4
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ mv file1 fil.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup_original.txt  exoperim6.sh  exp6.sh  expfunction.sh  file3.sh  link.txt
archive1.tar.gz   exp.2.sh            exp6.sh       exp6.sh  exp6.sh         file3.sh.gz  myfile.txt
archive1tar.bz2   exp6                exp6e6.sh     fil.txt  file5           orig.txt
archive2.tar      documents            exp6.1.sh     exper6.sh  file.txt        file6       original.txt
backup_file.txt   error.log            exp6.2.sh     experi6.sh  file2.gz        home       script.sh
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ mv dir1 dir_1
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup_original.txt  exoperim6.sh  exp6.sh  expfunction.sh  file3.sh  link.txt
archive1.tar.gz   exp.2.sh            exp6.sh       exp6.sh  exp6.sh         file3.sh.gz  myfile.txt
archive1tar.bz2   exp6                exp6e6.sh     fil.txt  file5           orig.txt
archive2.tar      documents            exp6.1.sh     exper6.sh  file.txt        file6       original.txt
backup_file.txt   error.log            exp6.2.sh     experi6.sh  file2.gz        home       script.sh
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ |
```

Exercise 3: Viewing File Contents

Task Statement:

Display file contents using cat, less, head, and tail.

Command(s):

```
cat filename.txt
less /var/log/syslog
head -n 5 filename.txt
tail -n 20 filename.txt
tail -f /var/log/syslog
```


Output:

```
vaishnavii29@DESKTOP-BSKS x + v
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar  archive2.tar  error.log  exp6.1.sh  exp6.2.sh  exp6.sh  experi6.sh  file2.gz  file5  link.txt
archive1.tar.gz  backup_file.txt  exp2.sh  exp6.2.sh  expee6.sh  expfunction.sh  file3.sh  file6  orig.txt
archive1tar.bz2  backup_original.txt  exp6  exp6.sh  exper6.sh  exp6.sh  file3.sh.gz  home  original.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ cat file2.gz
❖{hX~=@l9q5❖❖2vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ cat file3.sh file5
echo "enter your age"
read age
if [$age -18]
then
    echo "You're eligible to vote"
else
    echo "You're not eligible to vote"
fi

vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ cat -n file3.sh
 1 echo "enter your age"
 2 read age
 3 if [$age -18]
 4 then
 5     echo "You're eligible to vote"
 6 else
 7     echo "You're not eligible to vote"
 8 fi
 9

vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ cat > file4.sh
ls
```



```
vaishnavii29@DESKTOP-BSKS x + v
Windows PowerShell
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PS C:\Users\DELL\Desktop\New folder\linux> wsl
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar  backup_file.txt  error.log  exp6.1.sh  exp6.2.sh  exp6.sh  file4.sh  link.txt
archive1.tar.gz  backup_original.txt  exoperim6.sh  exp6.2.sh  exper6.sh  file2.gz  file5  orig.txt
archive1tar.bz2  file2  exp2.sh  exp6.sh  experi6.sh  file3.sh  file6  original.txt
archive2.tar  file3  exp6  expee6.sh  expfunction.sh  file3.sh.gz  home  script.sh
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ less file3.sh
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ less file3.sh
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ more file3.sh
echo "enter your age"
read age
if [$age -18]
then
    echo "You're eligible to vote"
else
    echo "You're not eligible to vote"
fi

vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ |
```



```
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive2.tar      exp6.1.sh  exp6.sh  experi6.sh  file2.gz  file4.sh  howe
archive1.tar.gz   backup_file.txt   exp.2.sh  exp6.2.sh  exp6ee6.sh  expfunction.sh  file3.sh  file5  link.txt
archive1tar.bz2  backup_original.txt  error.log  exp6      exper6.sh  exp66.sh  file3.sh.gz  file6  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ head exp6ee6.sh
i=1
until [ $i -gt 5 ]
do
    echo "Count: $i"
    i=$((i+1))
done
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ head -n 5 exp6.sh
i=1
while [ $i -le 5 ]
do
    echo "Count: $i"
    i=$((i+1))
done
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ head -c 20 exp6.sh
i=1
while [ $i -le 5]vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tall exp6.sh
Command 'tall' not found, did you mean:
  command 'pall' from snap pall (3.0.1)
  command 'tali' from snap tali (40.9)
  command 'taql' from deb casacore-tools (3.5.0-4ubuntu2)
  command 'tali' from deb tali (1:40.9-1)
  command 'tail' from deb coreutils (9.4-2ubuntu2)
  command 'wall' from deb bsdutils (1:2.39.3-9ubuntu6.3)
  command 'talk' from deb inetutils-talk (2:2.4-3ubuntu1)
  command 'talk' from deb talk (0.17-18)
See 'snap info <snapname>' for additional versions.
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tail exp6.sh
i=1
while [ $i -le 5 ]
do
    echo "Count: $i"
    i=$((i+1))
done
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tail -n 15 exp.1.sh
tail: cannot open 'exp.1.sh' for reading: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tail -n 15 exp6.1.sh
do
```

```
    echo "Count: $i"
    i=$((i+1))
done
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ head -c 20 exp6.sh
i=1
while [ $i -le 5]vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tall exp6.sh
Command 'tall' not found, did you mean:
  command 'pall' from snap pall (3.0.1)
  command 'tali' from snap tali (40.9)
  command 'taql' from deb casacore-tools (3.5.0-4ubuntu2)
  command 'tali' from deb tali (1:40.9-1)
  command 'tail' from deb coreutils (9.4-2ubuntu2)
  command 'wall' from deb bsdutils (1:2.39.3-9ubuntu6.3)
  command 'talk' from deb inetutils-talk (2:2.4-3ubuntu1)
  command 'talk' from deb talk (0.17-18)
See 'snap info <snapname>' for additional versions.
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tail exp6.sh
i=1
while [ $i -le 5 ]
do
    echo "Count: $i"
    i=$((i+1))
done
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tail -n 15 exp.1.sh
tail: cannot open 'exp.1.sh' for reading: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ tail -n 15 exp6.1.sh
do
    echo STEP $1
    if [ $i -eq 4 ];then
        continue
        echo "after continue"
    fi

    if [ $i -eq 8 ];then
break
echo "after break"

    fi

    echo -e "ending take \n"
done
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$
```

Exercise 4: File Searching with find

Task Statement:

Search files by name, type, size, and permissions using **find**.

Command(s):

```
find /home -name "*.txt"
find /home -type f -size +100M
find /etc -name "*conf*"
find /tmp -type f -empty -delete
```


Output:

```
vaishnavii29@DESKTOP-BSKS x + v
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -name file3
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -iname FILE3
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find . /home -type d -name dir_1
./dir_1
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find . /home -type f -name file3
./dir_1/file3
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -type l
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find . /home -type l-
find: Must separate multiple arguments to -type using: ','
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find . /home -type l
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -size +100M
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -size +1KB
find: invalid -size type 'B'
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -size +1k
/home
/home/vaishnavii29
/home/vaishnavii29/a.out
/home/vaishnavii29/.cache
/home/vaishnavii29/.bash_history
/home/vaishnavii29/VirtualBox VMs
/home/vaishnavii29/VirtualBox VMs/linux
/home/vaishnavii29/VirtualBox VMs/linux/linux.vbox
/home/vaishnavii29/VirtualBox VMs/linux/linux.vdi
/home/vaishnavii29/VirtualBox VMs/linux/linux.vbox-prev
/home/vaishnavii29/public_folder
/home/vaishnavii29/documents
/home/vaishnavii29/documents/projects
/home/vaishnavii29/documents/projects/linux_tutorial
/home/vaishnavii29/.scriptexp5.sh.swo
/home/vaishnavii29/.bashrc
/home/vaishnavii29/dir3
/home/vaishnavii29/dir1
/home/vaishnavii29/.landscape
/home/vaishnavii29/.local
/home/vaishnavii29/.local/share
/home/vaishnavii29/.local/share/nano
/home/vaishnavii29/.local/share/gedit
/home/vaishnavii29/.local/share/flatpak
/home/vaishnavii29/.local/share/flatpak/db
/home/vaishnavii29/.local/share/recently-used.xbel
/home/vaishnavii29/dir11

28°C
Light rain
Search

vaishnavii29@DESKTOP-BSKS x + v
/home/vaishnavii29/.viminfo
/home/vaishnavii29/.scriptexp5.sh.swp
/home/vaishnavii29/dir2
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -mtime -7
/home/vaishnavii29
/home/vaishnavii29/a.out
/home/vaishnavii29/.motd_shown
/home/vaishnavii29/first.c
/home/vaishnavii29/.bash_history
/home/vaishnavii29/.lesshst
/home/vaishnavii29/VirtualBox VMs
/home/vaishnavii29/VirtualBox VMs/linux
/home/vaishnavii29/VirtualBox VMs/linux/linux.vbox
/home/vaishnavii29/VirtualBox VMs/linux/linux.vdi
/home/vaishnavii29/VirtualBox VMs/linux/linux.vbox-prev
/home/vaishnavii29/public_folder
/home/vaishnavii29/documents
/home/vaishnavii29/documents/projects
/home/vaishnavii29/documents/projects/linux_tutorial
/home/vaishnavii29/first2.c
/home/vaishnavii29/dir3
/home/vaishnavii29/dir1
/home/vaishnavii29/.local/share
/home/vaishnavii29/.local/share/gedit
/home/vaishnavii29/.local/share/gedit/gedit-metadata.xml
/home/vaishnavii29/.local/share/flatpak
/home/vaishnavii29/.local/share/flatpak/db
/home/vaishnavii29/.local/share/recently-used.xbel
/home/vaishnavii29/dir11
/home/vaishnavii29/exp2
/home/vaishnavii29/.config
/home/vaishnavii29/.config/gedit
/home/vaishnavii29/.config/gedit/accels
/home/vaishnavii29/.config/htop
/home/vaishnavii29/.config/htop/htoprc
/home/vaishnavii29/.config/VirtualBox
/home/vaishnavii29/.config/VirtualBox/selectorwindow.log.2
/home/vaishnavii29/.config/VirtualBox/VBoxSVC.log.7
/home/vaishnavii29/.config/VirtualBox/VBoxSVC.log.6
/home/vaishnavii29/.config/VirtualBox/selectorwindow.log.3
/home/vaishnavii29/.config/VirtualBox/selectorwindow.log.5

28°C
Light rain
Search
```



```
vaishnavii29@DESKTOP-BSKS  x  +  v
/home/vaishnavii29/.config/QtProject.conf
/home/vaishnavii29/.viminfo
/home/vaishnavii29/dir2
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -atime +30
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -ctime -1
/home/vaishnavii29/.motd_shown
/home/vaishnavii29/.bash_history
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -perm 644
/home/vaishnavii29/.bash_logout
/home/vaishnavii29/.cache/motd.legal-displayed
/home/vaishnavii29/.profile
/home/vaishnavii29/.scriptexp5.sh.swo
/home/vaishnavii29/.bashrc
/home/vaishnavii29/first2.c
/home/vaishnavii29/file1
/home/vaishnavii29/.landscape/sysinfo.log
/home/vaishnavii29/.local/share/gedit/gedit-metadata.xml
/home/vaishnavii29/exp2
/home/vaishnavii29/.config/gedit/acclis
/home/vaishnavii29/.config/enchant/en_US.exc
/home/vaishnavii29/.config/enchant/en_US.dic
/home/vaishnavii29/.config/QtProject.conf
/home/vaishnavii29/.scriptexp5.sh.swp
/home/vaishnavii29/.sudo_as_admin_successful
/home/vaishnavii29/file2
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -perm -644
/home
/home/vaishnavii29/.bash_logout
/home/vaishnavii29/a.out
/home/vaishnavii29/.motd_shown
/home/vaishnavii29/.scriptexp5.sh
/home/vaishnavii29/.cache/motd.legal-displayed
/home/vaishnavii29/.profile
/home/vaishnavii29/test1.sh
/home/vaishnavii29/first.c
/home/vaishnavii29/VirtualBox VMs
/home/vaishnavii29/VirtualBox VMs/linux
/home/vaishnavii29/public_folder
/home/vaishnavii29/documents
/home/vaishnavii29/documents/projects
/home/vaishnavii29/documents/projects/linux_tutorial
/home/vaishnavii29/.sudo_as_admin_successful
/home/vaishnavii29/file2
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ find /home -perm /111
/home
/home/vaishnavii29
/home/vaishnavii29/a.out
/home/vaishnavii29/.scriptexp5.sh
/home/vaishnavii29/.cache
/home/vaishnavii29/test1.sh
/home/vaishnavii29/first.c
/home/vaishnavii29/VirtualBox VMs
/home/vaishnavii29/VirtualBox VMs/linux
/home/vaishnavii29/public_folder
/home/vaishnavii29/documents
/home/vaishnavii29/documents/projects
/home/vaishnavii29/documents/projects/linux_tutorial
/home/vaishnavii29/dir3
/home/vaishnavii29/dir1
/home/vaishnavii29/.landscape
/home/vaishnavii29/.local
/home/vaishnavii29/.local/share
/home/vaishnavii29/.local/share/nano
/home/vaishnavii29/.local/share/gedit
/home/vaishnavii29/.local/share/flatpak
/home/vaishnavii29/.local/share/flatpak/db
/home/vaishnavii29/dir11
/home/vaishnavii29/script5.sh
/home/vaishnavii29/.config
/home/vaishnavii29/.config/gedit
/home/vaishnavii29/.config/htop
/home/vaishnavii29/.config/VirtualBox
/home/vaishnavii29/.config/dconf
/home/vaishnavii29/.config/procps
/home/vaishnavii29/.config/enchant
/home/vaishnavii29/script.sh
/home/vaishnavii29/dir2
```

Exercise 5: Pattern Searching with grep

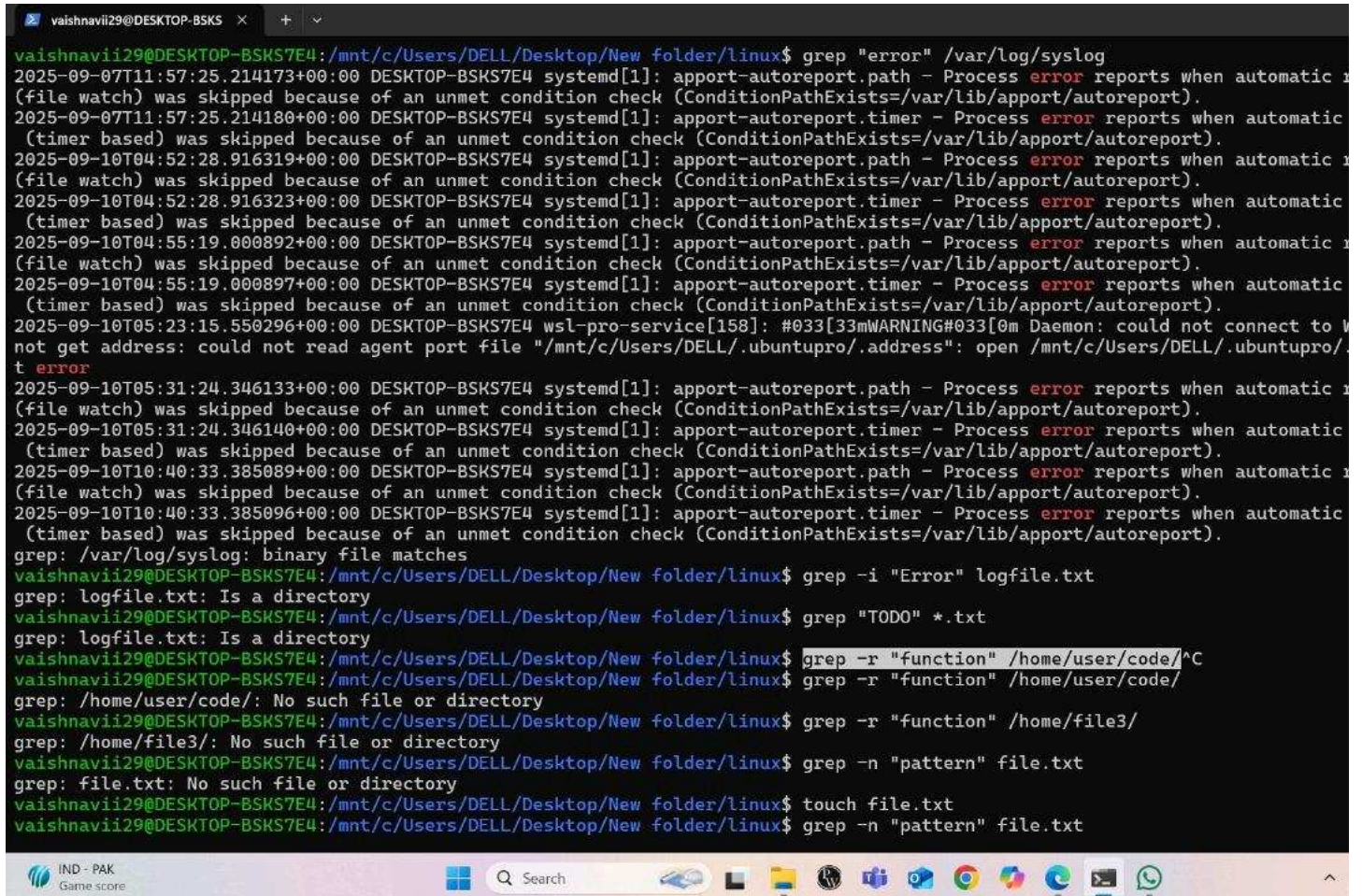
Task Statement:

Search for patterns in files using grep.

Command(s):

```
grep "error" /var/log/syslog
grep -i "Error" logfile.txt
grep -r "function" ~/code/
grep -n "TODO" *.txt
```

Output:



```
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep "error" /var/log/syslog
2025-09-07T11:57:25.214173+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.path - Process error reports when automatic
(file watch) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-07T11:57:25.214180+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.timer - Process error reports when automatic
(timer based) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T04:52:28.916319+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.path - Process error reports when automatic
(file watch) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T04:52:28.916323+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.timer - Process error reports when automatic
(timer based) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T04:55:19.000892+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.path - Process error reports when automatic
(file watch) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T04:55:19.000897+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.timer - Process error reports when automatic
(timer based) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T05:23:15.550296+00:00 DESKTOP-BSKS7E4 wsl-pro-service[158]: #033[33mWARNING#033[0m Daemon: could not connect to W
not get address: could not read agent port file "/mnt/c/Users/DELL/.ubuntupro/.address": open /mnt/c/Users/DELL/.ubuntupro/.
t error
2025-09-10T05:31:24.346133+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.path - Process error reports when automatic
(file watch) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T05:31:24.346140+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.timer - Process error reports when automatic
(timer based) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T10:40:33.385089+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.path - Process error reports when automatic
(file watch) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
2025-09-10T10:40:33.385096+00:00 DESKTOP-BSKS7E4 systemd[1]: appport-autoreport.timer - Process error reports when automatic
(timer based) was skipped because of an unmet condition check (ConditionPathExists=/var/lib/appport/autoreport).
grep: /var/log/syslog: binary file matches
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep -i "Error" logfile.txt
grep: logfile.txt: Is a directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep "TODO" *.txt
grep: logfile.txt: Is a directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep -r "function" /home/user/code/^C
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep -r "function" /home/user/code/
grep: /home/user/code/: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep -r "function" /home/file3/
grep: /home/file3/: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep -n "pattern" file.txt
grep: file.txt: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ touch file.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ grep -n "pattern" file.txt
```

Exercise 6: Archiving and Compression

Task Statement:

Create and extract archives using tar, compress and decompress with gzip/gunzip.

Command(s):

```
tar -czf backup.tar.gz /home/user/documents
tar -xzf backup.tar.gz -C /restore/
gzip largefile.txt
gunzip largefile.txt.gz
```


Output:

```
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -cf backup.tar file6
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar      dir_1          exp6            expe6.sh       expfunction.sh  file2.gz       file5
archive1.tar.gz   backup_file.txt error.log      exp6.1.sh      expee6.sh      exp6.sh        file3.sh       file6
archive1tar.bz2   backup_original.txt exoperim6.sh  exp6.2.sh      exper6.sh      file.txt       file3.sh.gz    home
archive2.tar      dir_2          exp.2.sh      exp6.sh        expe6.sh       exper6.sh      file1.txt.save  link.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -czf backup.tar.gz file5
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ;s
-bash: syntax error near unexpected token `;'
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar.gz   error.log      exp6.2.sh      exper6.sh      file2.gz       file6          original.t
archive1.tar.gz   backup_file.txt exoperim6.sh  exp6.sh        expfunction.sh file3.sh       home          script.sh
archive1tar.bz2   backup_original.txt exp.2.sh      expe6.sh      exp6.sh        file3.sh.gz    link.txt
archive2.tar      dir_2          exp6          expee6.sh      exp6.sh        file.txt       logfile.txt
backup.tar        dir_1          exp6.1.sh     exper6.sh      file1.txt.save file5          orig.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -cjf backup.tar.bz2 file6
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar.bz2  dir_1          exp6.1.sh      exper6.sh      file1.txt.save  file5          orig.tx
archive1.tar.gz   backup.tar.gz   error.log      exp6.2.sh      exper6.sh      file2.gz       file6          origina
archive1tar.bz2   backup_file.txt exoperim6.sh  exp6.sh        expfunction.sh file3.sh       home          script.
archive2.tar      backup_original.txt exp.2.sh      expe6.sh      exp6.sh        file3.sh.gz    link.txt
backup.tar        dir_2          exp6          expee6.sh      exp6.sh        file.txt       logfile.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -cvf backup.tar file6
file6
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ |
```

```
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -cf backup.tar file6
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar      dir_1          exp6            expe6.sh       expfunction.sh  file2.gz       file5
archive1.tar.gz   backup_file.txt error.log      exp6.1.sh      expee6.sh      exp6.sh        file3.sh       file6
archive1tar.bz2   backup_original.txt exoperim6.sh  exp6.2.sh      exper6.sh      file.txt       file3.sh.gz    home
archive2.tar      dir_2          exp.2.sh      exp6.sh        expe6.sh       exper6.sh      file1.txt.save  link.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -czf backup.tar.gz file5
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ;s
-bash: syntax error near unexpected token `;'
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar.gz   error.log      exp6.2.sh      exper6.sh      file2.gz       file6          original.t
archive1.tar.gz   backup_file.txt exoperim6.sh  exp6.sh        expfunction.sh file3.sh       home          script.sh
archive1tar.bz2   backup_original.txt exp.2.sh      expe6.sh      exp6.sh        file3.sh.gz    link.txt
archive2.tar      dir_2          exp6          expee6.sh      exp6.sh        file.txt       logfile.txt
backup.tar        dir_1          exp6.1.sh     exper6.sh      file1.txt.save file5          orig.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -cjf backup.tar.bz2 file6
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar.bz2  dir_1          exp6.1.sh      exper6.sh      file1.txt.save  file5          orig.tx
archive1.tar.gz   backup.tar.gz   error.log      exp6.2.sh      exper6.sh      file2.gz       file6          origina
archive1tar.bz2   backup_file.txt exoperim6.sh  exp6.sh        expfunction.sh file3.sh       home          script.
archive2.tar      backup_original.txt exp.2.sh      expe6.sh      exp6.sh        file3.sh.gz    link.txt
backup.tar        dir_2          exp6          expee6.sh      exp6.sh        file.txt       logfile.txt
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -cvf backup.tar file6
file6
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -xf backup.tar
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -xf backup.tar -C /restore/home
tar: /restore/home: Cannot open: No such file or directory
tar: Error is not recoverable: exiting now
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ tar -xf backup.tar -C dir_1
vaishnavii29@DESKTOP-BSKS7E4: /mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      backup.tar.bz2  dir_1          exp6.1.sh      exper6.sh      file1.txt.save  file5          orig.tx
archive1.tar.gz   backup.tar.gz   error.log      exp6.2.sh      exper6.sh      file2.gz       file6          origina
archive1tar.bz2   backup_file.txt exoperim6.sh  exp6.sh        expfunction.sh file3.sh       home          script.
archive2.tar      backup_original.txt exp.2.sh      expe6.sh      exp6.sh        file3.sh.gz    link.txt
backup.tar        dir_2          exp6          expee6.sh      exp6.sh        file.txt       logfile.txt
```

```
vaishnavii29@DESKTOP-BSKS7E4: ~$ tar -xzf backup.tar.gz file6
vaishnavii29@DESKTOP-BSKS7E4: ~$ tar -tf backup.tar
file2.txt
vaishnavii29@DESKTOP-BSKS7E4: ~$ |
```



```

vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1  file2.gz  file3.sh  file5  orig.txt
archive1.tar.gz   archive2.tar     file2  file3     file4     file6  link.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gunzip -k file2.gz
gzip: file2 already exists; do you wish to overwrite (y or n)? y
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1  file2.gz  file3.sh  file5  orig.txt
archive1.tar.gz   archive2.tar     file2  file3     file4     file6  link.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gunzip -t file2.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1  file2.gz  file3.sh  file5  orig.txt
archive1.tar.gz   archive2.tar     file2  file3     file4     file6  link.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ echo $?
0
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ zcat file2.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ vim file2.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -k file3.sh
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1  file2.gz  file3.sh  file4  file6  link.txt
archive1.tar.gz   archive2.tar     file2  file3     file3.sh.gz  file5  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ zcat file3.sh.gz
echo "enter your age"
read age
if [ $age -lt 18 ]
then
    echo "You're eligible to vote"
else
    echo "You're not eligible to vote"
fi
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ zless file3.sh.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ zgrep "pattern" file3.sh.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1  file2.gz  file3.sh  file4  file6  link.txt
archive1.tar.gz   archive2.tar     file2  file3     file3.sh.gz  file5  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ zgrep "pattern" file3.sh.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$

```

32°C
Partly sunny

Quick search

```

gzip: file5: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1.gz  file3     file4     orig.txt
archive1.tar.gz   archive2.tar     file2.gz  file3.sh  file5.gz  link.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip file3 file4
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1.gz  file3.gz  file4.gz  orig.txt
archive1.tar.gz   archive2.tar     file2.gz  file3.sh  file5.gz  link.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -v file5.gz
gzip: file5.gz already has .gz suffix -- unchanged
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ vim file6
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1.gz  file3.gz  file4.gz  file6  link.txt
archive1.tar.gz   archive2.tar     file2.gz  file3.sh  file5.gz  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -v file6
file6:  0.0% -- replaced with file6.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -k file1 file2 file3 file4 file5 file6
gzip: file1: No such file or directory
gzip: file2: No such file or directory
gzip: file3: No such file or directory
gzip: file4: No such file or directory
gzip: file5: No such file or directory
gzip: file6: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1.gz  file3.gz  file4.gz  file6.gz  link.txt
archive1.tar.gz   archive2.tar     file2.gz  file3.sh  file5.gz  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -k file1
gzip: file1: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gunzip file1.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1     file3.gz  file4.gz  file6.gz  link.txt
archive1.tar.gz   archive2.tar     file2.gz  file3.sh  file5.gz  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gunzip file2.gz file3.gz file4.gz file5.gz file6.gz
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1     file3     file4     file6  link.txt
archive1.tar.gz   archive2.tar     file2     file3.sh  file5     orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gunzip -k file2.gz
gzip: file2.gz: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -k file2
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar      archive1tar.bz2  file1     file2.gz  file3.sh  file5     orig.txt

```

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1 unread message

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```
vaishnavii29@DESKTOP-BSKS x + v
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\DELL\Desktop\New folder\linux> wsl
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ vim file5
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip file5
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -k file5
gzip: file5: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -k file5
gzip: file5: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls -l
total 24
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 10240 Sep  6 05:26 archive1.tar
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 135 Sep  6 05:14 archive1.tar.gz
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 143 Sep  6 05:18 archive1tar.bz2
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 10240 Sep  6 05:44 archive2.tar
drwxrwxrwx 1 vaishnavii29 vaishnavii29 512 Sep  6 05:31 dir1
drwxrwxrwx 1 vaishnavii29 vaishnavii29 512 Sep  6 05:32 dir2
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 0 Sep  6 05:10 file1
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 0 Sep  6 05:10 file2
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 2 Sep  6 05:37 file3
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 129 Sep  6 05:42 file3.sh
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 0 Sep  6 05:32 file4
-rwxrwxrwx 1 vaishnavii29 vaishnavii29 26 Sep  7 12:01 file5.gz
drwxrwxrwx 1 vaishnavii29 vaishnavii29 512 Sep  6 06:06 home
-rwxrwxrwx 2 vaishnavii29 vaishnavii29 14 Sep  6 06:06 link.txt
-rwxrwxrwx 2 vaishnavii29 vaishnavii29 14 Sep  6 06:06 orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ vim file5
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar  archive1tar.bz2  dir1  file1  file3  file4  file5.gz  link.txt
archive1.tar.gz  archive2.tar  dir2  file2  file3.sh  file5  home  orig.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip -9 file5
gzip: file5.gz already exists; do you wish to overwrite (y or n)? y
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
archive1.tar  archive1tar.bz2  dir1  file1  file3  file4  home  orig.txt
archive1.tar.gz  archive2.tar  dir2  file2  file3.sh  file5.gz  link.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ gzip file1 file2 file5
gzip: file5: No such file or directory
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls
```

Exercise 7: Creating Links

Task Statement:

Create and test hard and symbolic links using ln.

Command(s):

```
echo "Hello" > original.txt
ln original.txt hardlink.txt
ln -s original.txt symlink.txt
ls -li original.txt hardlink.txt symlink.txt
```

Output:

```
vaishnavii29@DESKTOP-BSKS x + v
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ln original.txt link1.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ln -s original.txt sym.tx
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ ls -li original.txt link1
19984723346529805 -rwxrwxrwx 2 vaishnavii29 vaishnavii29 0 Sep 13 11:19 link1.txt
19984723346529805 -rwxrwxrwx 2 vaishnavii29 vaishnavii29 0 Sep 13 11:19 original.txt
3940649673993442 lrwxrwxrwx 1 vaishnavii29 vaishnavii29 12 Sep 24 13:32 sym.txt -> original.txt
vaishnavii29@DESKTOP-BSKS7E4:/mnt/c/Users/DELL/Desktop/New folder/linux$ |
```

Result

- Successfully created, copied, moved, and deleted files.
- Practiced viewing file contents and monitoring logs.
- Explored file permissions and ownership management.

- Used `find` and `grep` to locate and filter data.
- Created archives and compressed files.
- Demonstrated both hard and symbolic links.

Challenges Faced & Learning Outcomes

- Challenge 1: Accidentally deleted files with `rm` without `-i`. Learned to use `rm -i` for safety.
- Challenge 2: Remembering numeric vs symbolic permissions in `chmod`. Fixed through repeated practice.

Learning:

- Gained practical skills with file manipulation and permission commands.
- Learned how to efficiently search files and patterns in Linux.
- Understood how to archive and compress files for better storage management.
- Understood differences between hard and symbolic links.

Conclusion

This experiment provided hands-on experience with core Linux file management, permissions, searching, archiving, and linking. These are foundational skills for effective Linux system administration and daily usage.