EXP – 1

EX-1

(a) Create project directory in home

mkdir ~/project

(b) Create src and bin subdirectories

mkdir ~/project/src ~/project/bin

(c) Create main.cpp in src and compile.sh in bin

touch ~/project/src/main.cpp ~/project/bin/compile.sh

(d) Copy compile.sh to src and rename it to build.sh

cp ~/project/bin/compile.sh ~/project/src/build.sh

(e) Move main.cpp to bin

mv ~/project/src/main.cpp ~/project/bin/

(f) Remove src directory

rm -r ~/project/src

(g) Confirm current directory and list project contents

pwd

ls -l ~/project

EX- 2

(a) Create data.txt with sample content

echo "Sample content" > ~/data.txt

(b) Create backup.txt by copying data.txt

cp ~/data.txt ~/backup.txt

(c) Display lines 11-20 of data.txt

head -n 20 ~/data.txt | tail -n 10

(d) Rename backup.txt to data backup.txt

mv ~/backup.txt ~/data\ backup.txt

(e) Change permissions to read and write for owner only

chmod 600 ~/data.txt

(f) Change ownership of data backup.txt

sudo chown student:group1 ~/data\ backup.txt

EX – 3

(a) Create original file.txt with content

echo "Original content" > ~/original\ file.txt

(b) Create a symbolic link

ln -s ~/original\ file.txt ~/symlink\ to\ original

(c) Create a hard link

ln ~/original\ file.txt ~/hardlink\ to\ original

(d) Display inode numbers

ls -li ~/original\ file.txt ~/symlink\ to\ original ~/hardlink\ to\ original

(e) Edit original file.txt

echo "New line added" >> ~/original\ file.txt

(f) Display contents of symlink and hardlink

cat ~/symlink\ to\ original ~/hardlink\ to\ original

(g) Delete original file and verify links

rm ~/original\ file.txt

ls -l ~/symlink\ to\ original ~/hardlink\ to\ original

EX – 4

(a) Create grep practice directory and sample.txt with 50 lines

mkdir ~/grep\ practice

for i in {1..50}; do echo "Line $i Linux test" >> ~/grep\ practice/sample.txt;

done

(b) Find lines with "Linux"

grep "Linux" ~/grep\ practice/sample.txt

(c) Case-insensitive search

grep -i "linux" ~/grep\ practice/sample.txt

(d) Display line numbers with matches

grep -n "Linux" ~/grep\ practice/sample.txt

(e) Display lines without "Linux"

grep -v "Linux" ~/grep\ practice/sample.txt

(f) Count lines with "Linux"

grep -c "Linux" ~/grep\ practice/sample.txt

EX – 5

(a) Create permissions file.txt

touch ~/permissions\ file.txt

(b) Change permissions to read, write, and execute for owner; read-only for others

chmod 744 ~/permissions\ file.txt

(c) Verify permissions

ls -l ~/permissions\ file.txt

(d) Change ownership to newuser:newgroup

sudo chown newuser:newgroup ~/permissions\ file.txt

(e) Verify ownership change

ls -l ~/permissions\ file.txt