



L O V E L Y
P R O F E S S I O N A L
U N I V E R S I T Y

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Course code:- CSV 103

PART -A

```
tarunesh@DESKTOP-434MVF:~$ cd project_workspace
tarunesh@DESKTOP-434MVF:~/project_workspace$ cd ..
tarunesh@DESKTOP-434MVF:~$ cd project_wrkspace/
tarunesh@DESKTOP-434MVF:~/project_wrkspace$ pwd
/home/tarunesh/project_wrkspace
tarunesh@DESKTOP-434MVF:~/project_wrkspace$ ls -ls
total 4
4 drwxr-xr-x 9 tarunesh tarunesh 4096 Feb 20 04:56 project_workspace
tarunesh@DESKTOP-434MVF:~/project_wrkspace$ ls -la
total 12
drwxr-xr-x  3 tarunesh tarunesh 4096 Feb 20 04:47 .
drwxr-x--- 17 tarunesh tarunesh 4096 Feb 20 05:03 ..
drwxr-xr-x  9 tarunesh tarunesh 4096 Feb 20 04:56 project_workspace
tarunesh@DESKTOP-434MVF:~/project_wrkspace$ du -sh *
1.2M  project_workspace
tarunesh@DESKTOP-434MVF:~/project_wrkspace$ du -sh * | sort -h
1.2M  project_workspace
tarunesh@DESKTOP-434MVF:~/project_wrkspace$ file */
project_workspace/README.txt:                      ASCII text, with no line terminators
project_workspace/README.txt:Zone.Identifier: ASCII text, with CRLF line terminators
project_workspace/data:                           directory
project_workspace/logs:                          directory
project_workspace/messages:                     directory
project_workspace/processed:                   directory
project_workspace/reports:                     directory
project_workspace/temp:                        directory
project_workspace/users:                       directory
```

PART – B

```
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ sort users/users.txt
Archishman
Keshav
Krishna
Krishna
Mehak
Mehak
Murli
Prince
Prince
Rimmi
Tarunesh
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ sort users/users.txt | uniq > users/unique_users.txt
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ cat users/unique_users.txt
cat: users/unique_users.txt: No such file or directory
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ cat users/unique_users.txt
Archishman
Keshav
Krishna
Mehak
Murli
Prince
Rimmi
Tarunesh
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ sort users/users.txt | uniq -d > users/duplicate_users.txt
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ cat users/duplicate_users.txt
Krishna
Mehak
Prince
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ wc -l users/users.txt
11 users/users.txt
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ rev users/users.txt > users/reversed_users.txt
```

```
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ rev users/users.txt > users/reversed_users.txt
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ cat users/reversed_users.txt
immiT
kaheM
hsenuraT
ilruM
anhsirK
ecnirP
vahseK
namhsihcrA
ecnirP
anhsirK
kaheM
```

PART – C

```
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep "ERROR" logs/system.log
ERROR disk failure
ERROR network unreachable
ERROR permission denied
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep -c "ERROR" logs/system.log
3
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep "login failed" logs/access.log
login failed
login failed
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ sort logs/system.log
ERROR disk failure
ERROR network unreachable
ERROR permission denied
INFO backup running
INFO service restarted
INFO system started
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep "ERROR" logs/system.log > logs/error_report.txt
grep "login failed" logs/access.log >> logs/error_report.txt
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cat logs/error_report.txt
ERROR disk failure
ERROR network unreachable
ERROR permission denied
login failed
login failed
```

PART – D

```
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cat messages/message_part_01.txt messages/message_part_02.txt messages/message_part_03.txt > processed/final_message1.txt
```

PART – E

```
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ find . -type f -empty
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ find . -type f -empty
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ ls -l temp/
total 12
-rw-r--r-- 1 tarunesh tarunesh 101 Feb 20 04:47 empty1.txt:Zone.Identifier
-rw-r--r-- 1 tarunesh tarunesh 101 Feb 20 04:47 empty2.txt:Zone.Identifier
-rw-r--r-- 1 tarunesh tarunesh 101 Feb 20 04:47 unused.tmp:Zone.Identifier
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ find . -type f -empty -de
-delete -depth
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ find . -type f -empty -delete
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ rm temp/*.tmp
rm: cannot remove 'temp/*.tmp': No such file or directory
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ ls temp/
empty1.txt:Zone.Identifier unused.tmp:Zone.Identifier
empty2.txt:Zone.Identifier
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ rm temp/*
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ ls temp/
```

PART – F

```
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cd data/
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/data$ cat sample.txt
linux operations practice file
this file is used for counting and viewing
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/data$ head -n 2 sample.txt
linux operations practice file
this file is used for counting and viewing
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/data$ tail -n 1 sample.txt
this file is used for counting and viewing
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/data$ less data/sample.txt
data/sample.txt: No such file or directory
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/data$ less sample.txt
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/data$ wc sample.txt
2 12 74 sample.txt
```

PART – G

```
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ find . -name  
"*.txt"  
.messages/message_part_03.txt  
.messages/message_part_01.txt  
.messages/message_part_02.txt  
.logs/error_report.txt  
.README.txt  
.data/sample.txt  
.reports/report_old.txt  
.reports/draft.txt  
.processed/final_message.txt  
.processed/final_message1.txt  
.users/reversed_users.txt  
.users/duplicate_users.txt  
.users/unique_users.txt  
.users/users.txt  
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ find . -m  
-maxdepth -mindepth -mmin -mount -mtime  
tarunesh@DESKTOP-434MVFM:~/project_wrkspace/project_workspace$ find . -mtime  
-1  
.messages  
.messages/message_part_02.txt:Zone.Identifier  
.messages/message_part_01.txt:Zone.Identifier  
.messages/message_part_03.txt:Zone.Identifier  
.logs  
.logs/system.log:Zone.Identifier  
.logs/access.log:Zone.Identifier  
.logs/old.log:Zone.Identifier  
.logs/error_report.txt  
.README.txt:Zone.Identifier  
.data  
.data/sample.txt:Zone.Identifier  
.data/large_data.bin:Zone.Identifier  
.reports  
.reports/report_old.txt:Zone.Identifier  
.reports/draft.txt:Zone.Identifier  
.processed  
.processed/final_message.txt  
.processed/final_message1.txt
```

```
./processed/final_message1.txt
./temp
./users
./users/new_users.txt:Zone.Identifier
./users/duplicate_users.txt:Zone.Identifier
./users/reversed_users.txt
./users/users.txt:Zone.Identifier
./users/duplicate_users.txt
./users/unique_users.txt
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep -r "ERROR" logs/
logs/system.log:ERROR disk failure
logs/system.log:ERROR network unreachable
logs/system.log:ERROR permission denied
logs/error_report.txt:ERROR disk failure
logs/error_report.txt:ERROR network unreachable
logs/error_report.txt:ERROR permission denied
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep -r "ERROR" logs/ > error_search.txt
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cat error_search.txt
logs/system.log:ERROR disk failure
logs/system.log:ERROR network unreachable
logs/system.log:ERROR permission denied
logs/error_report.txt:ERROR disk failure
logs/error_report.txt:ERROR network unreachable
logs/error_report.txt:ERROR permission denied
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ grep -r "ERROR" logs/ | wc -l
6
```

PART – H

```

tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ du -sh * > reports/statistics_report.txt
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cat reports/statistics_report.txt
4.0K README.txt
4.0K README.txt:Zone.Identifier
1.1M data
4.0K error_search.txt
32K logs
28K messages
12K processed
24K reports
4.0K temp
32K users
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ date >> reports/statistics_report.txt
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cat reports/statistics_report.txt
4.0K README.txt
4.0K README.txt:Zone.Identifier
1.1M data
4.0K error_search.txt
32K logs
28K messages
12K processed
24K reports
4.0K temp
32K users
Fri Feb 20 05:16:33 UTC 2026
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ echo "Workspace cleaned and processed successfully" | tee reports/summary.txt
Workspace cleaned and processed successfully

```

PART – I

```

tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ mkdir deliverable
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cp users/unique_users.txt deliverable/
cp users/duplicate_users.txt deliverable/
cp logs/error_report.txt deliverable/
cp processed/final_message.txt deliverable/
cp reports/statistics_report.txt deliverable/
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ ls
README.txt          deliverable    messages   temp
README.txt:Zone.Identifier  error_search.txt  processed  users
data               logs          reports
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace$ cd deliverable/
tarunesh@DESKTOP-434MVF:~/project_wrkspace/project_workspace/deliverable$ ls
duplicate_users.txt  final_message.txt  unique_users.txt
error_report.txt    statistics_report.txt

```

