Registration: 12415355

Section: K324DV

Name: Archishman Singh

Dept. -: School of Computing and Engineering

PART A: Workplace Exploration

```
project_workspace — -zsh — 80×24

[asp@R project_workspace % du -sh
1.0M    .
[asp@R project_workspace % du -sh *
1.0M    data
 12K    logs
 12K    messages
4.0K    README.txt
8.0K    reports
4.0K    temp
4.0K    users
[asp@R project_workspace % file */*
data/large_data.bin:          data
data/sample.txt:              ASCII text
logs/access.log:              ASCII text
logs/old.log:                 ASCII text, with no line terminators
logs/system.log:              ASCII text
messages/message_part_01.txt: ASCII text, with no line terminators
messages/message_part_02.txt: ASCII text, with no line terminators
messages/message_part_03.txt: ASCII text, with no line terminators
reports/draft.txt:            ASCII text, with no line terminators
reports/report_old.txt:       ASCII text, with no line terminators
temp/empty1.txt:              empty
temp/empty2.txt:              empty
temp/unused.tmp:              ASCII text, with no line terminators
```

```
project_workspace — -zsh — 80×24

zsh: command not found: cs
[asp@R ~ % cd project_workspace
[asp@R project_workspace % ls
data            messages        reports         users
logs            README.txt      temp
[asp@R project_workspace % ls -a
.               data            messages        reports         users
..              logs            README.txt      temp
[asp@R project_workspace % pwd
/Users/asp/project_workspace
[asp@R project_workspace % ls -la
total 8
drwxr-xr-x@  9 asp  staff   288 Feb 20 10:11 .
drwxr-x---+ 41 asp  staff  1312 Feb 20 10:11 ..
drwxr-xr-x@  4 asp  staff   128 Feb 14 08:49 data
drwxr-xr-x@  5 asp  staff   160 Feb 14 08:49 logs
drwxr-xr-x@  5 asp  staff   160 Feb 14 08:49 messages
-rw-r--r--@  1 asp  staff    35 Feb 14 08:49 README.txt
drwxr-xr-x@  4 asp  staff   128 Feb 14 08:49 reports
drwxr-xr-x@  5 asp  staff   160 Feb 14 08:49 temp
drwxr-xr-x@  5 asp  staff   160 Feb 14 08:49 users
[asp@R project_workspace % du -sh
1.0M    .
[asp@R project_workspace % du -sh *
```

```
project_workspace — -zsh — 80×24

temp/unused.tmp:              ASCII text, with no line terminators
users/duplicate_users.txt:    empty
users/new_users.txt:          empty
users/users.txt:              ASCII text
```

PART B: User data Processing

```
● ● ●              📁 project_workspace — -zsh — 80×24

[asp@R project_workspace % cd users                                            ]
[asp@R users % ls                                                              ]
duplicate_users.txt      new_users.txt              users.txt
[asp@R users % sort users.txt                                                  ]
Archishman
Keshav
Krishna
Krishna
Mehak
Mehak
Murli
Prince
Prince
Rimmi
Tarunesh
[asp@R users % sort users.txt | uniq > unique_users.txt                        ]
[asp@R users % sort users.txt | uniq -d > duplicate_users.txt                  ]
[asp@R users % wc -l users.txt                                                 ]
      11 users.txt
[asp@R users % rev users.txt > reversed_users.txt                             ]
```

PART C: Log Investigation

```
[asp@R users % cd ..
[asp@R project_workspace % cd log
 cd: no such file or directory: log
[asp@R project_workspace % cd logs
[asp@R logs % ls
 access.log        old.log           system.log
[asp@R logs % grep "ERROR" system.log
 ERROR disk failure
 ERROR network unreachable
 ERROR permission denied
[asp@R logs % grep -c "ERROR" system.log
 3
[asp@R logs % grep "login failed" access.log
 login failed
 login failed
[asp@R logs % sort system.log > sorted_system.log
[asp@R logs % grep "ERROR" system.log > error_report.txt
[asp@R logs % grep "login failed" access.log > error_report.txt
```
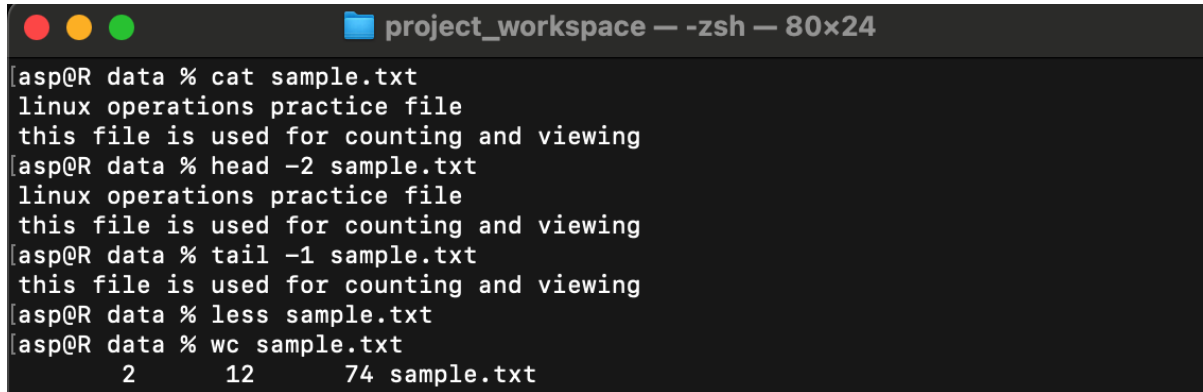
PART D: Message Reconstruction

```
[asp@R logs % cd ..
[asp@R project_workspace % mkdir processed
[asp@R project_workspace % ls
 data            messages        README.txt      temp
 logs            processed       reports         users
[asp@R project_workspace % cd messages
[asp@R messages % ls
 message_part_01.txt     message_part_02.txt     message_part_03.txt
[asp@R messages % cd ..
[asp@R project_workspace % ls
 data            messages        README.txt      temp
 logs            processed       reports         users
[asp@R project_workspace % cd processed
[asp@R processed % cat messages/message_part_01.txt messages/message_part_02.txt
 messages/message_part_03.txt > processed/final_message.txt
 zsh: no such file or directory: processed/final_message.txt
[asp@R processed % cd .
[asp@R processed % ls
[asp@R processed % cd ..
[asp@R project_workspace % ls
 data            messages        README.txt      temp
 logs            processed       reports         users
[asp@R project_workspace % cat messages/message_part_01.txt messages/message_part
 _02.txt messages/message_part_03.txt > processed/final_message.txt
```

PART E: Cleanup Operations

```
[asp@R project_workspace % find . -type f -empty
./temp/empty2.txt
./temp/empty1.txt
./users/new_users.txt
[asp@R project_workspace % ls -l temp/
total 8
-rw-r--r--@ 1 asp  staff   0 Feb 14 08:49 empty1.txt
-rw-r--r--@ 1 asp  staff   0 Feb 14 08:49 empty2.txt
-rw-r--r--@ 1 asp  staff  14 Feb 14 08:49 unused.tmp
[asp@R project_workspace % find . -type f -empty -delete
[asp@R project_workspace % rm -f temp/*.temp
zsh: no matches found: temp/*.temp
[asp@R project_workspace % rm -f temp/*.tmp
[asp@R project_workspace % find . -type f -empty
[asp@R project_workspace % ls temp/
```

PART F: File Viewing and Analysis

```
[asp@R data % cat sample.txt
 linux operations practice file
 this file is used for counting and viewing
[asp@R data % head -2 sample.txt
 linux operations practice file
 this file is used for counting and viewing
[asp@R data % tail -1 sample.txt
 this file is used for counting and viewing
[asp@R data % less sample.txt
[asp@R data % wc sample.txt
        2       12       74 sample.txt
```

PART G: Search and filtering

```
[asp@R data % cd ..
[asp@R project_workspace % find . —type .txt
find: —type: .txt: unknown type
[asp@R project_workspace % find . —type f —name "*.txt"
./messages/message_part_03.txt
./messages/message_part_02.txt
./messages/message_part_01.txt
./logs/error_report.txt
./users/unique_users.txt
./users/duplicate_users.txt
./users/users.txt
./users/reversed_users.txt
./README.txt
./processed/final_message.txt
./data/sample.txt
./reports/report_old.txt
./reports/draft.txt
[asp@R project_workspace % find . —type f —mtime —1
./logs/error_report.txt
./logs/sorted_system.log
./users/unique_users.txt
./users/duplicate_users.txt
./users/reversed_users.txt
./processed/final_message.txt
```

```
[asp@R project_workspace % grep —r "ERROR" logs/
logs/sorted_system.log:ERROR disk failure
logs/sorted_system.log:ERROR network unreachable
logs/sorted_system.log:ERROR permission denied
logs/system.log:ERROR disk failure
logs/system.log:ERROR network unreachable
logs/system.log:ERROR permission denied
[asp@R project_workspace % grep —r "ERROR" logs/ > error_search.txt
[asp@R project_workspace % grep —r "ERROR" logs/ | wc —l
       6
```

PART H: Redirection and Reporting

```
logs/sorted_system.log:ERROR disk failure
logs/sorted_system.log:ERROR network unreachable
logs/sorted_system.log:ERROR permission denied
logs/system.log:ERROR disk failure
logs/system.log:ERROR network unreachable
logs/system.log:ERROR permission denied
[asp@R project_workspace % grep -r "ERROR" logs/ > error_search.txt          ]
[asp@R project_workspace % grep -r "ERROR" logs/ | wc -l                     ]
       6
[asp@R project_workspace % du -sh * > disk_report.txt                        ]
[asp@R project_workspace % date >> disk_report.txt                          ]
[asp@R project_workspace % echo "Workspace cleaned and analysed successfully" | t]
ee summary.txt
Workspace cleaned and analysed successfully
```

PART I: Final Packaging

```
asp@R project_workspace % mkdir deliverable                              ]
asp@R project_workspace % cp users/unique_users.txt deliverable/        ]
asp@R project_workspace % cp users/duplicate_users.txt deliverable/     ]
asp@R project_workspace % cp logs/error_report.txt deliverable/         ]
asp@R project_workspace % cp processed/final_message.txt deliverable/   ]
asp@R project_workspace % cp disk_report.txt deliverable/               ]
asp@R project_workspace % ls deliverable                                ]
disk_report.txt          error_report.txt          unique_users.txt
duplicate_users.txt      final_message.txt
asp@R project_workspace % ▐
```