```
#!/bin/bash



echo "[1/15] Creating ProjectAutomation folder in home
directory..."

mkdir ~/ProjectAutomation



echo "[2/15] Navigating into ProjectAutomation..."

cd ~/ProjectAutomation



echo "[3/15] Creating Reports, Logs, and Scripts
subdirectories..."

mkdir Reports Logs Scripts



echo "[4/15] Creating ReadMe.txt in Reports with a brief
description..."

echo "This project automates file organization and system
checks." > Reports/ReadMe.txt



echo "[5/15] Appending a timestamp to ReadMe.txt..."
```

```
date >> Reports/ReadMe.txt



echo "[6/15] Copying ReadMe.txt to Logs folder..."

cp Reports/ReadMe.txt Logs/



echo "[7/15] Listing files in Reports to FileList.txt..."

ls -l Reports > Reports/FileList.txt



echo "[8/15] Writing system uptime to Logs/SystemUptime.txt..."

uptime > Logs/SystemUptime.txt



echo "[9/15] Saving disk usage of home directory to
Reports/DiskUsage.txt..."

du -sh ~ > Reports/DiskUsage.txt



echo "[10/15] Checking memory and saving to
Logs/MemoryCheck.txt..."

free -h > Logs/MemoryCheck.txt
```

```
echo "[11/15] Creating symbolic link to ReadMe.txt in Scripts..."

ln -s ../Reports/ReadMe.txt Scripts/ReadMeLink.txt



echo "[12/15] Changing FileList.txt permissions to read-only..."

chmod 444 Reports/FileList.txt



echo "[13/15] Echoing task completion..."

echo "All tasks completed successfully."



echo "[14/15] Compressing ProjectAutomation folder..."

cd ~

tar -czvf ProjectAutomation.tar.gz ProjectAutomation



echo "[15/15] Displaying archive size..."

du -sh ProjectAutomation.tar.gz
```

```
echo "✅ Script completed!"
```

Step-by-Step Explanation

1. Creates a folder named ProjectAutomation in the user's home directory.

2. Navigates into the ProjectAutomation directory.

3. Creates three subdirectories: Reports, Logs, and Scripts.

4. Creates ReadMe.txt with a brief project description in Reports.

5. Appends a timestamp to ReadMe.txt.

6. Copies ReadMe.txt into the Logs folder.

7. Lists all files in Reports and saves it to FileList.txt.

8. Logs system uptime to SystemUptime.txt in Logs.

9. Saves home directory disk usage to DiskUsage.txt in Reports.

10. Checks available memory and writes output to MemoryCheck.txt in Logs.

11. Creates a symbolic link to ReadMe.txt in the Scripts folder.

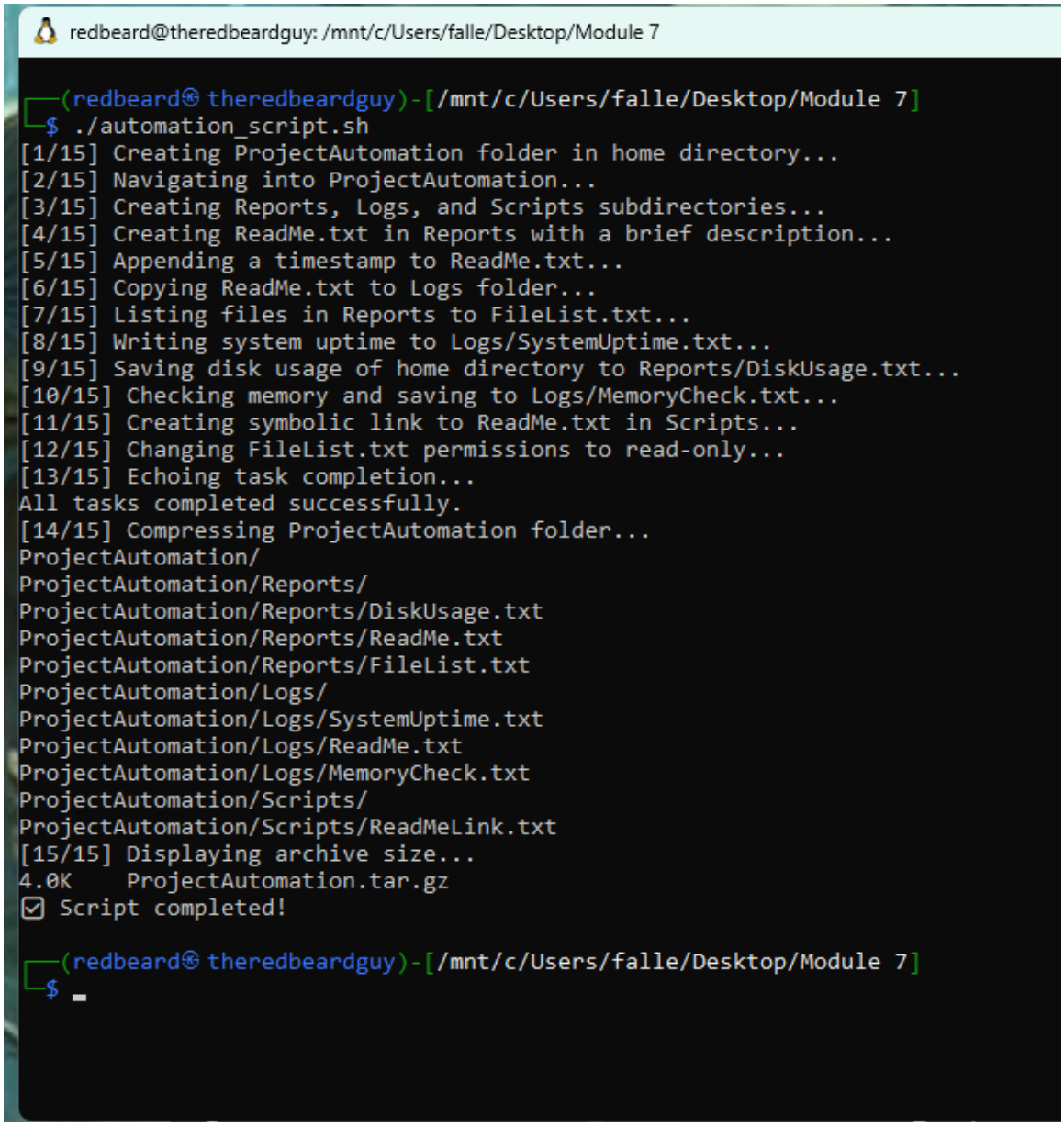
12. Changes permissions of FileList.txt to read-only for all users.

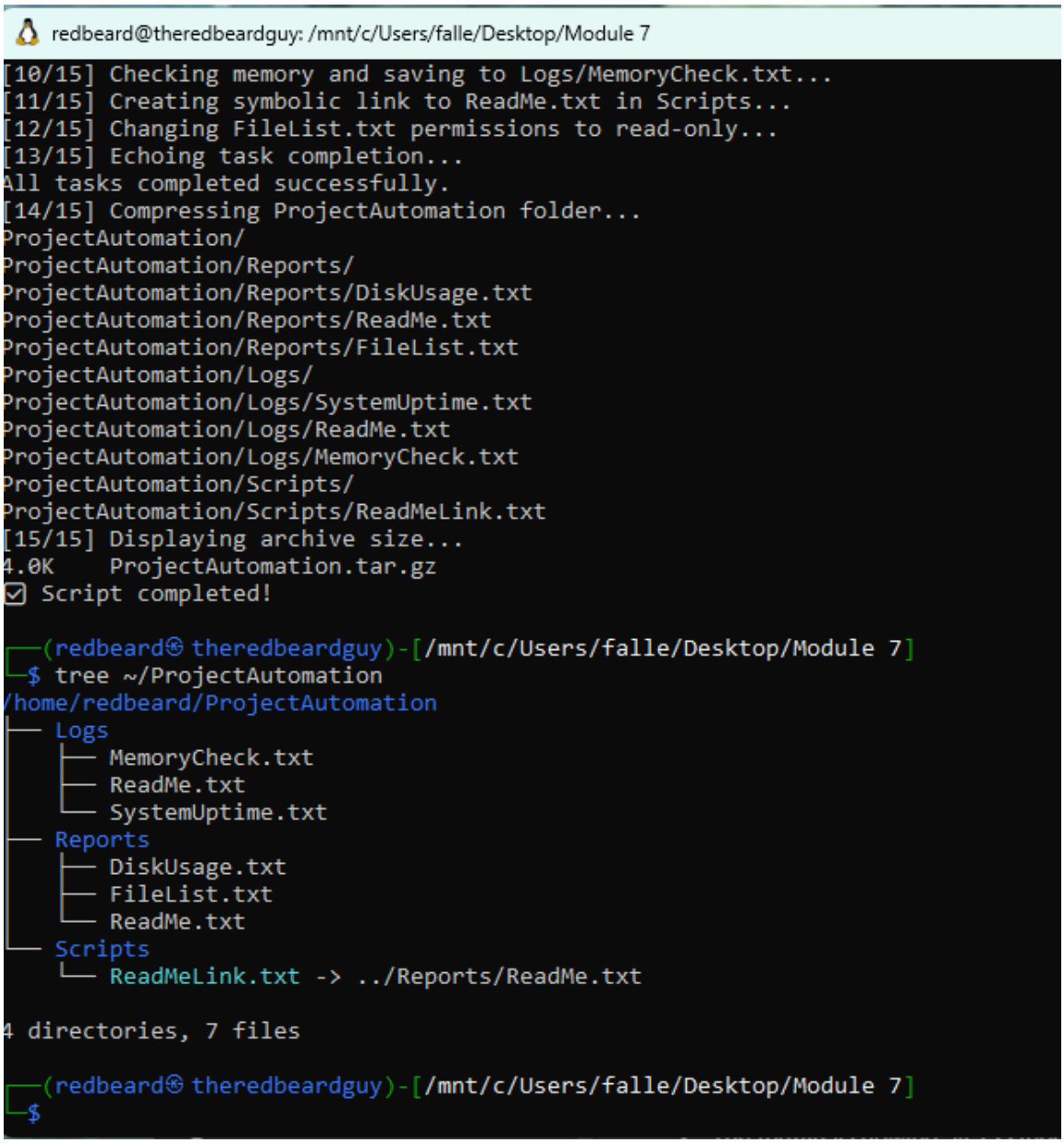
13. Prints a task completion message to the terminal.

14. Compresses the ProjectAutomation folder to ProjectAutomation.tar.gz.

15. Displays the size of the archive in the terminal.

Screenshots





Reflection

This assignment helped me reinforce my understanding of Bash scripting and Linux system tools. I learned how to automate routine tasks and manage files and system information efficiently.

This project strengthened my understanding of Bash scripting and Linux command-line tools. I learned how to automate file organization, gather system stats, and apply permissions efficiently.