Question 2 (2024eb03003):

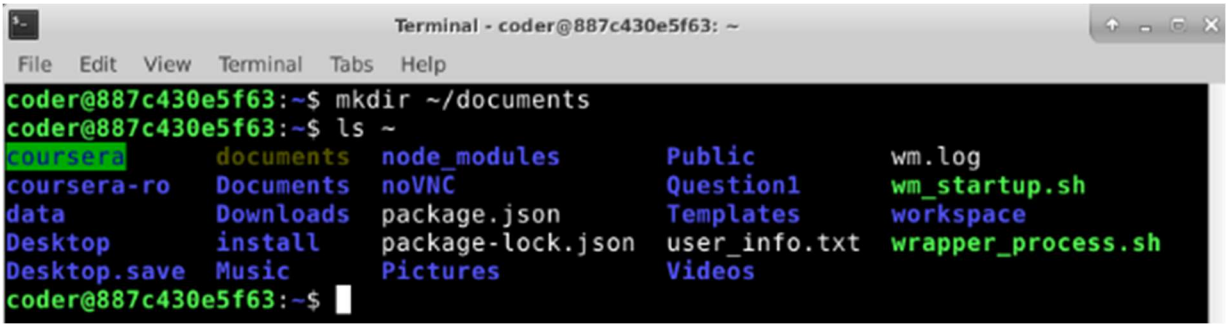
You are working as a junior system administrator responsible for organizing project- related files in your home directory.

Your supervisor wants you to demonstrate your understanding of Linux file and directory management commands.

1. Project Workspace Setup

Create a directory named documents inside the home directory. This directory will store the project-related files.

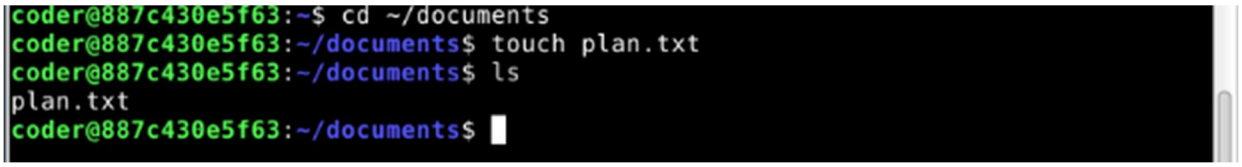
mkdir ~/documents {**~** expands to our home directory and **mkdir** creates the documents directory there (no output if it succeeds)}.



2. File Creation

Navigate into the documents directory and create a file named plan.txt.

cd ~/documents (cd ~/documents moves into the documents directory.)
touch plan.txt (creates an empty file named plan.txt or updates its timestamp if it already exists)

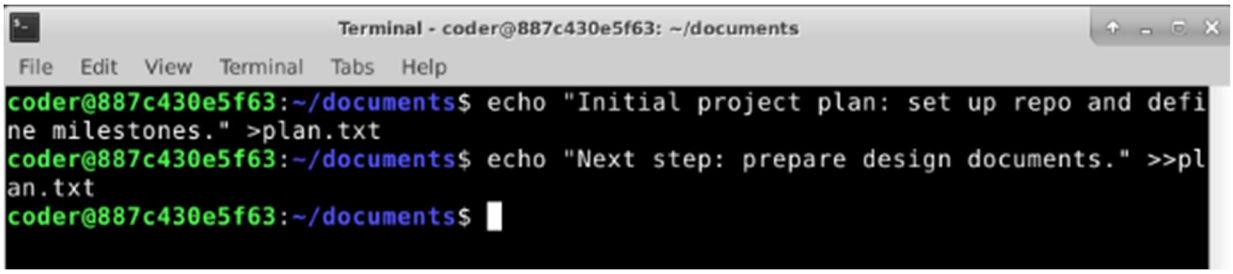


3. Content Addition

Write some sample text of your choice into the plan.txt file. The content can be a short project note or reminder.

echo "Initial project plan: set up repo and define milestones." > plan.txt (We add a short line of text)

echo "Next step: prepare design document." >> plan.txt (This overwrites plan.txt with that sentence. To append instead of overwrite, use >>)



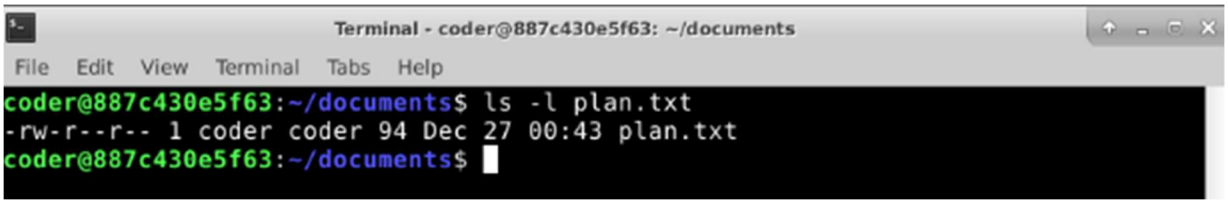
4. File Metadata Verification

Display the permissions and ownership details of the plan.txt file. Ensure your username appears in the output.

ls -l plan.txt

This long listing shows:

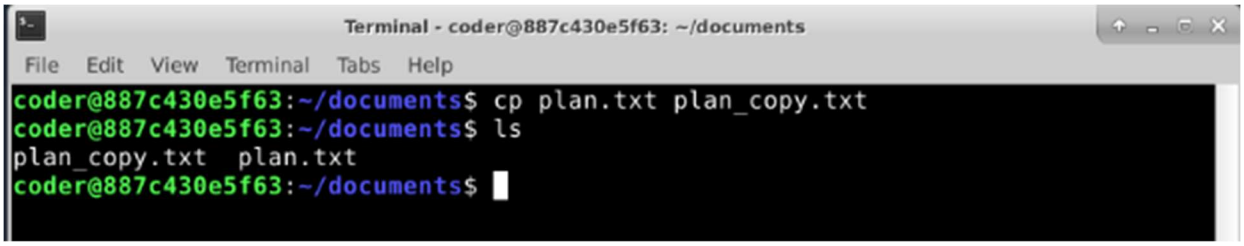
- File type and permissions (first column, like -rw-r--r--)
- Link count
- Owner username (coder)
- Group name
- Size, timestamp, and filename



5. File Duplication

Create a copy of plan.txt and name it plan_copy.txt.

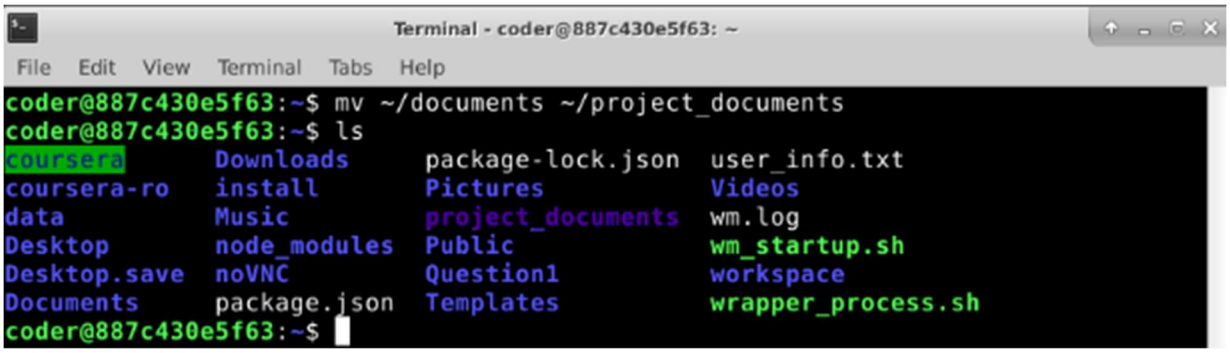
cp plan.txt plan_copy.txt (This command creates plan_copy.txt as an exact copy of plan.txt in the same directory)



6. Directory Renaming

Rename the documents directory to project_documents to reflect the project scope more clearly.

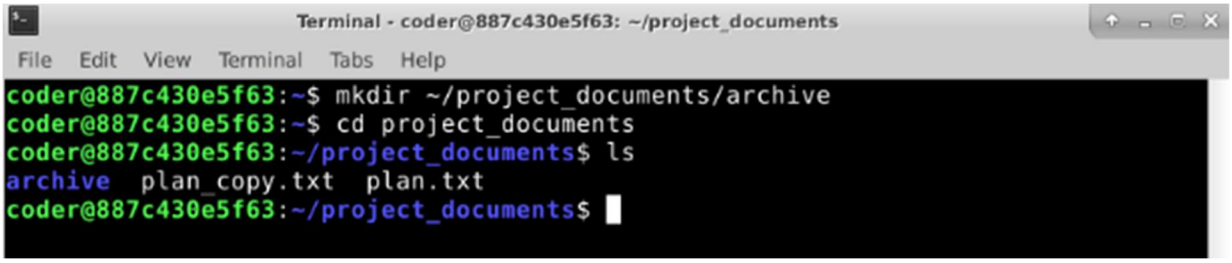
mv ~/documents ~/project_documents (This command renames the documents directory to project_documents while keeping all its contents unchanged)



7. Archival Structure

Inside the project_documents directory, create a subdirectory named archive.

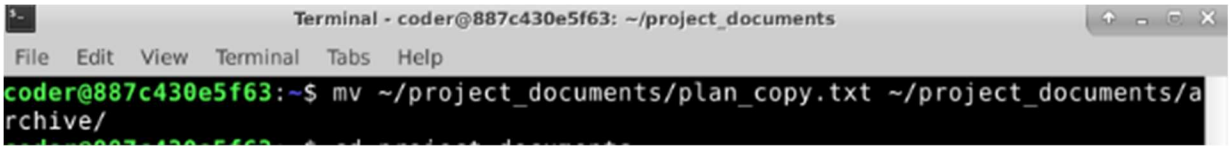
mkdir ~/project_documents/archive (This command creates the archive subdirectory inside project_documents)



8. File Organization

Move plan_copy.txt into the archive subdirectory.

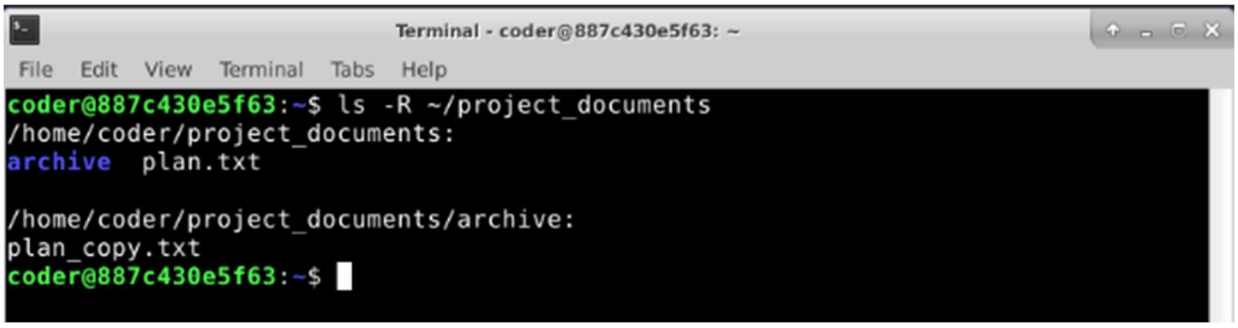
mv ~/project_documents/plan_copy.txt ~/project_documents/archive/ (This command moves plan_copy.txt into the archive subdirectory under project_documents)



9. Recursive Listing

List all files and subdirectories inside project_documents recursively so that the complete directory structure is visible.

ls -R ~/project_documents (This command prints project_documents, its files, and every subdirectory (like archive/) with their contents in a tree-style listing)



10. Path Verification

Display the absolute path of the plan_copy.txt file after it has been moved to the archive directory.

echo "$HOME/project_documents/archive/plan_copy.txt" (This command prints the full path to plan_copy.txt in the archive directory)