

Question 2 (2024eb03003):

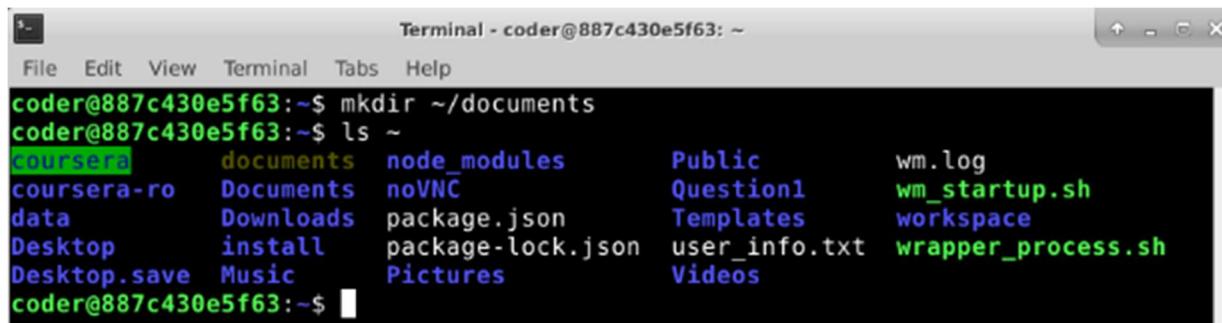
You are working as a junior system administrator responsible for organizing project-related files in your home directory.

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)}.



A screenshot of a terminal window titled "Terminal - coder@887c430e5f63: ~". The window has a standard OS X-style title bar with icons for close, minimize, and maximize. The menu bar includes "File", "Edit", "View", "Terminal", "Tabs", and "Help". The terminal itself shows the command "mkdir ~/documents" being run, followed by an "ls ~" command to list the contents of the home directory. The output shows the newly created "documents" directory among other files like "node_modules", "Public", "wm.log", etc.

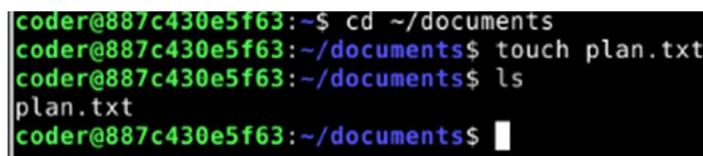
```
coder@887c430e5f63:~$ mkdir ~/documents
coder@887c430e5f63:~$ ls ~
coursera    documents  node_modules      Public      wm.log
coursera-ro   Documents  noVNC          Question1  wm_startup.sh
data         Downloads   package.json     Templates   workspace
Desktop     install     package-lock.json user_info.txt wrapper_process.sh
Desktop.save Music      Pictures        Videos
coder@887c430e5f63:~$
```

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)



A screenshot of a terminal window showing the user navigating to the "documents" directory and creating a new file named "plan.txt". The terminal shows the commands "cd ~/documents", "touch plan.txt", and "ls" to list the contents of the directory, which now includes "plan.txt".

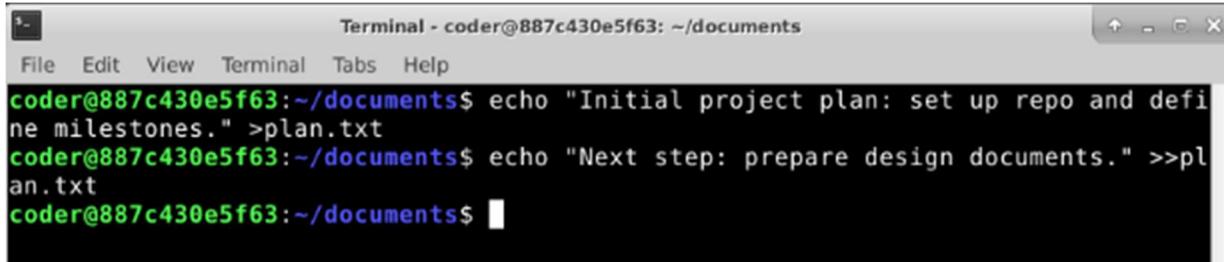
```
coder@887c430e5f63:~$ cd ~/documents
coder@887c430e5f63:~/documents$ touch plan.txt
coder@887c430e5f63:~/documents$ ls
plan.txt
coder@887c430e5f63:~/documents$
```

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 >>)
```



```
Terminal - coder@887c430e5f63: ~/documents
File Edit View Terminal Tabs Help
coder@887c430e5f63:~/documents$ echo "Initial project plan: set up repo and define milestones." >plan.txt
coder@887c430e5f63:~/documents$ echo "Next step: prepare design documents." >>plan.txt
coder@887c430e5f63:~/documents$
```

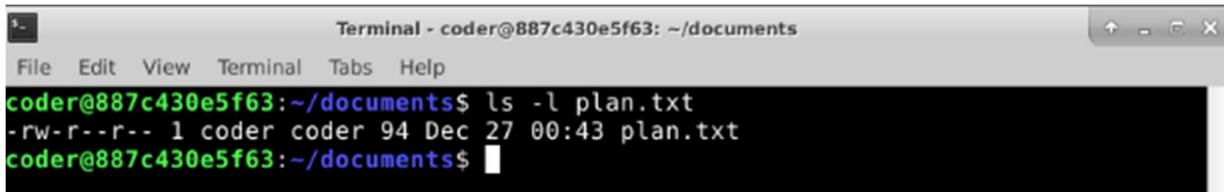
4. File Metadata Verification

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



```
Terminal - coder@887c430e5f63: ~/documents
File Edit View Terminal Tabs Help
coder@887c430e5f63:~/documents$ ls -l plan.txt
-rw-r--r-- 1 coder coder 94 Dec 27 00:43 plan.txt
coder@887c430e5f63:~/documents$
```

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)
```

```
Terminal - coder@887c430e5f63: ~/documents
File Edit View Terminal Tabs Help
coder@887c430e5f63:~/documents$ cp plan.txt plan_copy.txt
coder@887c430e5f63:~/documents$ ls
plan_copy.txt plan.txt
coder@887c430e5f63:~/documents$
```

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)

```
Terminal - coder@887c430e5f63: ~
File Edit View Terminal Tabs Help
coder@887c430e5f63:~$ mv ~/documents ~/project_documents
coder@887c430e5f63:~$ ls
Coursera Downloads package-lock.json user_info.txt
coursera-ro install Pictures Videos
data Music project_documents wm.log
Desktop node_modules Public wm_startup.sh
Desktop.save noVNC Question1 workspace
Documents package.json Templates wrapper_process.sh
coder@887c430e5f63:~$
```

7. Archival Structure

Inside the project_documents directory, create a subdirectory named archive.

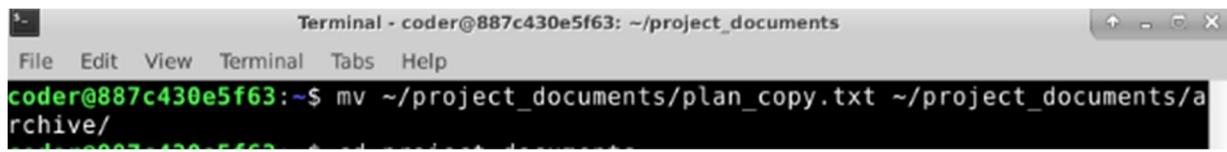
mkdir ~/project_documents/archive (This command creates the archive subdirectory inside project_documents)

```
Terminal - coder@887c430e5f63: ~/project_documents
File Edit View Terminal Tabs Help
coder@887c430e5f63:~$ mkdir ~/project_documents/archive
coder@887c430e5f63:~$ cd project_documents
coder@887c430e5f63:~/project_documents$ ls
archive plan_copy.txt plan.txt
coder@887c430e5f63:~/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)

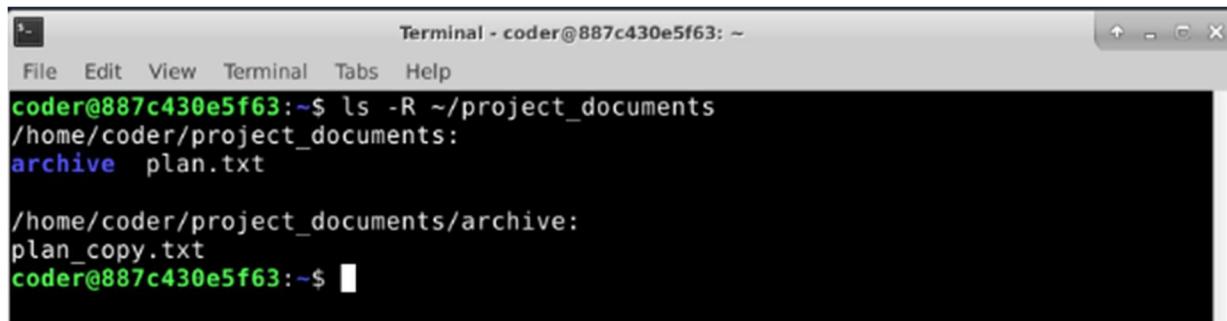


```
Terminal - coder@887c430e5f63: ~/project_documents
File Edit View Terminal Tabs Help
coder@887c430e5f63:~$ mv ~/project_documents/plan_copy.txt ~/project_documents/archive/
coder@887c430e5f63:~$
```

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)



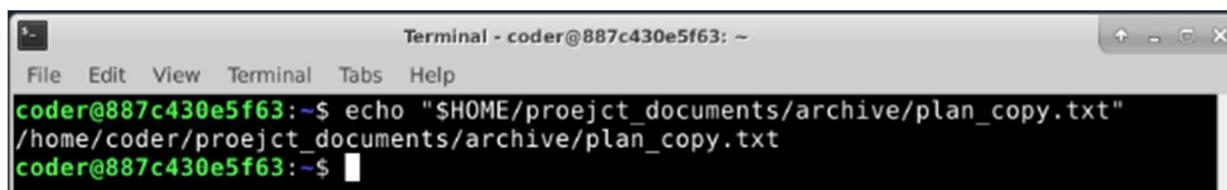
```
Terminal - coder@887c430e5f63: ~
File Edit View Terminal Tabs Help
coder@887c430e5f63:~$ ls -R ~/project_documents
/home/coder/project_documents:
archive  plan.txt

/home/coder/project_documents/archive:
plan_copy.txt
coder@887c430e5f63:~$
```

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)



```
Terminal - coder@887c430e5f63: ~
File Edit View Terminal Tabs Help
coder@887c430e5f63:~$ echo "$HOME/project_documents/archive/plan_copy.txt"
/home/coder/project_documents/archive/plan_copy.txt
coder@887c430e5f63:~$
```