

1) Project Workspace Setup:

```
yashwanthnalla@192 Question_2 % pwd  
/Users/yashwanthnalla/BITS_Pilani/Subjects/1-2/1-2_CLI_and_Scripting/GA-Module(1-4)/Question_2  
yashwanthnalla@192 Question_2 % mkdir ~/document  
yashwanthnalla@192 Question_2 %
```

I used ‘mkdir’ (make directory) with the tilde (~) path to ensure new folder is created specifically inside my home directory, regardless of where I am currently located in the file system.

Note: I have used document as folder name because documents already exists as default in the system.

2) File creation:

```
yashwanthnalla@192 Question_2 % cd ~/document  
yashwanthnalla@192 document % touch plan.txt  
yashwanthnalla@192 document %
```

I used ‘cd’ to change my current directory to documents, and then ‘touch’ command to create an empty file named plan.txt

3) Content Addition:

```
yashwanthnalla@192 document % echo "Project reminder: Complete initial setup tasks." > plan.txt  
yashwanthnalla@192 document %
```

  **plan.txt**

Project reminder: Complete initial setup tasks.

The ‘echo’ command generates the text string, and the redirection operator (>) sends that into plan.txt, overwriting any existing content with the new note.

4) File Metadata Verification:

```
yashwanthnalla@192 document % ls -l plan.txt  
-rw-r--r--@ 1 yashwanthnalla staff 48 2 Jan 11:32 plan.txt  
yashwanthnalla@192 document %
```

The 'ls -l' command displays file permissions, ownership, and size, confirming that the file belongs to my user account.

5) File Duplication:

```
yashwanthnalla@192 document % cp plan.txt plan_copy.txt  
yashwanthnalla@192 document %
```



Project reminder: Complete initial setup tasks.

I used the 'cp' (copy) command to duplicate the contents of the source file (plan.txt) into a new file named plan_copy.txt

6) Directory Renaming:

```
yashwanthnalla@192 document % cd ..  
yashwanthnalla@192 ~ % mv document project_documents  
yashwanthnalla@192 ~ %
```

First I moved up one level (out of the directory) using 'cd ..', then used the 'mv' (move) command to rename the directory from 'document' to 'project_documents'

7) Archival Structure:

```
yashwanthnalla@192 ~ % mkdir project_documents/archive  
yashwanthnalla@192 ~ %
```

I created the new folder archive by specifying its path inside project_documents, organizing the structure for future file storage.

8) File Organization:

```
yashwanthnalla@192 ~ % mv project_documents/plan_copy.txt project_documents/archive/  
yashwanthnalla@192 ~ %
```

I used the ‘mv’ command to physically relocate plan_copy.txt from its parent folder into the newly created archive subdirectory.

9) Recursive Listing:

```
yashwanthnalla@192 ~ % ls -R project_documents  
archive          plan.txt  
  
project_documents/archive:  
plan_copy.txt  
yashwanthnalla@192 ~ %
```

The ‘-R’ (recursive) flag tells ‘ls’ to list the contents of the main directory and also descend into every subdirectory (like archive), showing the complete file tree

10) Path Verification:

```
yashwanthnalla@192 ~ % realpath project_documents/archive/plan_copy.txt  
/Users/yashwanthnalla/project_documents/archive/plan_copy.txt  
yashwanthnalla@192 ~ %
```

The ‘realpath’ command resolves the relative path I typed into the full absolute path, confirming exactly where the file resides on the disk.