1. Use the **ssh** command to log in to serverb as the student user. The systems are configured to use SSH keys for authentication, and therefore a password is not required.

Graphical user interface

Description automatically generated

1. Before you create project files, use the **mkdir** command with brace expansion to create empty project planning documents in the /home/student/Documents/project\_plans directory. (Hint: if ~/Documents does not exist, the -p option for the **mkdir** command will create it.)

Create two empty files in the ~/Documents/project\_plans directory: season1\_project\_plan.odf and season2\_project\_plan.odf.

Graphical user interface, text

Description automatically generated

1. Create sets of empty practice files to use in this lab. If you do not immediately recognize the intended shell expansion shortcut, use the solution to learn and practice. Use shell tab completion to locate file path names easily.

Create a total of 12 files with names tv\_seasonX\_episodeY.ogg. Replace *X* with the season number and *Y* with that season's episode, for two seasons of six episodes each.

Graphical user interface, text

Description automatically generated

1. As the author of a successful series of mystery novels, your next bestseller's chapters are being edited for publishing. Create a total of eight files with names mystery\_chapterX.odf. Replace *X* with the numbers 1 through 8.

Graphical user interface, text

Description automatically generated

1. Use a single command to create two subdirectories named season1 and season2 under the Videos directory, to organize the TV episodes.

Graphical user interface

Description automatically generated

1. Move the appropriate TV episodes into the season subdirectories. Use only two commands, specifying destinations using relative syntax.

Graphical user interface, text

Description automatically generated

1. Create a 2-level directory hierarchy with a single command to organize the mystery book chapters. Create my\_bestseller under the Documents directory, and chapters under the new my\_bestseller directory.

Graphical user interface, text

Description automatically generated

1. Create three more subdirectories directly under the my\_bestseller directory using a single command. Name these subdirectories editor, changes, and vacation. The -p option (create parents) is not needed because the my\_bestseller parent directory already exists.

Graphical user interface

Description automatically generated

1. Change to the chapters directory. Using the tilde (~) home directory shortcut to specify the source files, move all book chapters to the chapters directory, which is now your current directory. What is the simplest syntax to specify the destination directory?

Graphical user interface

Description automatically generated

1. You sent the first two chapters to the editor for review. Move only those two chapters to the editor directory to avoid modifying them during the review. Starting from the chapters subdirectory, use brace expansion with a range to specify the chapter file names to move and a relative path for the destination directory.

Graphical user interface

Description automatically generated

1. While on vacation you intend to write chapters 7 and 8. Use a single command to move the files from the chapters directory to the vacation directory. Specify the chapter file names using brace expansion with a list of strings and without using wildcard characters.

Graphical user interface

Description automatically generated

1. Change your working directory to ~/Videos/season2, and then copy the first episode of the season to the vacation directory.

Graphical user interface, text

Description automatically generated

1. Use a single **cd** command to change from your working directory to the ~/Documents/my\_bestseller/vacation directory. List its files. Use the *previous working directory* argument to return to the season2 directory. (This will succeed if the last directory change with the **cd** command was accomplished with one command rather than several **cd** commands.) From the season2 directory, copy the episode 2 file into the vacation directory. Use the shortcut again to return to the vacation directory.

Graphical user interface

Description automatically generated

1. The authors of chapters 5 and 6 want to experiment with possible changes. Copy both files from the ~/Documents/my\_bestseller/chapters directory to the ~/Documents/my\_bestseller/changes directory to prevent these changes from modifying original files. Navigate to the ~/Documents/my\_bestseller directory. Use square-bracket pattern matching to specify which chapter numbers to match in the filename argument of the **cp** command.

Graphical user interface

Description automatically generated

1. Change your current directory to the changes directory.

Use the **date +%F** command with command substitution to copy mystery\_chapter5.odf to a new file which includes the full date. The name should have the form mystery\_chapter5\_YYYY-MM-DD.odf.

Make another copy of mystery\_chapter5.odf, appending the current time stamp (as the number of seconds since the epoch, 1970-01-01 00:00 UTC) to ensure a unique file name. Use command substitution with the **date +%s** command to accomplish this.

Graphical user interface, text

Description automatically generated

1. After further review, you decide that the plot changes are not necessary. Delete the changes directory.

If necessary, navigate to the changes directory and delete all the files within the directory. You cannot delete a directory while it is the current working directory. Change to the parent directory of the changes directory. Try to delete the empty directory using the **rm** command without the -r recursive option. This attempt should fail. Finally, use the **rmdir** command to delete the empty directory, which will succeed.

Graphical user interface, text

Description automatically generated

1. When the vacation is over, the vacation directory is no longer needed. Delete it using the **rm** command with the *recursive* option.

When finished, return to the student user's home directory.

Graphical user interface, text

Description automatically generated

1. Create a hard link to the ~/Documents/project\_plans/season2\_project\_plan.odf file named ~/Documents/backups/season2\_project\_plan.odf.back. A hard link will protect against accidental deletion of the original file and will keep the backup file updated as changes are made to the original.

Graphical user interface, text

Description automatically generated

1. Exit from serverb.

Graphical user interface, text

Description automatically generated

**Evaluation**

On workstation, run the **lab files-review grade** script to confirm success on this lab.

Graphical user interface, text

Description automatically generated

**Finish**

On workstation, run the **lab files-review finish** script to finish this lab. This script removes all files and directories created on serverb during the lab exercise.

Graphical user interface, text

Description automatically generated