**CIS133 – Homework 6 - Miscellaneous file system commands**

1. As root, install the locate command on your server and update its database.
    a. What commands did you use?

2. Use the locate command to find the *file1* file on the file system. (This is a file that should have been created in the previous assignment.)
    a. Provide the command used and its output.

3. Create another file named file1 in the /share folder
    a. Re-execute the same locate command. Does it find the new copy of the file1 file? If not, explain what you'd need to do to find it. If you did find it, explain what you did to find it.

4. Login as a user – any user but make sure it's a user who has a home folder and be sure that the user's PATH variable is established for him/her at login.
   Complete questions 4 thru 7 while logged in as this user.

   Copy the *grep* from the /usr/bin directory to the *bin* directory in the user's home folder.
   Copy the *find* command from the /usr/bin directory to the user's home folder.
    a. Explain how you logged in as the user
    b. Display the value of the user's PATH variable.
    c. Confirm to me that the files were copied by displaying the contents of the user's bin folder and the contents of the user's home directory. Be sure the folder's location is evident in your answer.

5. While still logged in as the user used in question 4, use the whereis command to find the location of the *find* command and to find the location of the *grep* command.
    a. Provide each command and their respective output.
    b. Explain why the *find* file currently stored in the user's home directory is not on this list. In addition, explain why the *grep* command currently stored in the user's bin directory was found. Your answer must make it clear to me that you understand where the whereis command searches.

6. As should be evident from question 5, Linux commands are stored in more than one location.
    a. What command can be used to determine which copy of a file is being used when a user executes the command?
    b. Execute the command that will identify the location of the grep command that would be used by your current user. Your answer must include the command and its output.

7. Create an alias named *show* that can be used to display the contents of any text file one screen at a time. Initially create the alias for the current session using the user you've been using for the past three questions. Then ensure that the alias is available for this user (only this user) every time he/she logs in.
    a. What command did you use to create the alias?

b. How did you test it?
c. Explain *exactly* what you did to ensure this user had this alias available every time he/she logged in. In addition, display the contents of any files used.
d. What user did you use?
e. How did you test this?

8. Create an alias named *desk* that will move a user to the Desktop folder in his/her home folder. Then ensure that the alias is available for ***all users*** every time they login. (Keep in mind… A user who has never logged in via the GUI will not have a Desktop folder in his/her home folder.)
    a. What command did you use to create the alias?
    b. How did you test it?
    c. Explain *exactly* what you did to ensure the alias is available for all users every time they login.
    d. How did you test this?

9. Create an alias that *you* believe would be useful. Include the command used to create the alias and an explanation of what the alias does as well as a sample execution of the alias. In addition, include a sample execution.
Please…. Something other than *cls* . Put some thought into this.

10. Determine whether each of following commands is an internal command, external command or alias: type, passwd, ls, desk. For each command, tell me if it's internal, external or alias *and* provide the command you used and its output

11. Install the tree command and use it to complete each of the below tasks. For each task include the command used.
    a. From the root directory, display the first 2 levels of directories of the entire file system. The output should include the size of each folder in human readable format and should not include files.
    b. Display a list of all files and directories, including hidden files, that exist within a user's home directory. Use the absolute path to the directory in the command. The output must include the date of last modification.

12. Execute a command that will display, in human readable format, the amount of space being used on each mounted device. Your answer must include the command used and its output.

13. Execute a command that will display, in human readable format, the amount of space being used by the /home folder. The output must include only one line of output; the /home directory's space usage. Your answer must include the command used and its output. (sample output 42M /Home)

14. Execute a command that will display a list of each user's home folder and its respective size. The list must not include any subfolders or files. The output must be displayed in human readable format and it must include a total line. Your answer must include the command used and its output.

Sample Output

```
56K     /home/alec
56K     /home/cathy
52K     /home/jan
42M     /home/janelle
52K     /home/jennie
52K     /home/ken
16K     /home/lost+found
52K     /home/pris
52K     /home/priss
52K     /home/steph
42M     total
```

15. Do a file system check on the sda3 partition on your system. Include all commands used to complete the task as well as the commands' output.

16. Assume you are currently running the system in the default run level and you need to bring the system down to rescue mode. What command could you use to take the system down to this level?

17. Completely restart the virtual operating system from the command prompt. What command did you use?

18. Completely shutdown the virtual operating system from the command prompt. What command did you use?

19. A virtual machine has been added to your CIS133 folder. It's the machine with 'needs fixing-hmwk6' at the end of the name. This system will boot into emergency mode. The root user's password is unknown. Your task is to fix the system so that it can successfully boot to a GUI.

    a. Include a list of the steps you used to resolve this problem. Include a list of each command used and explain why it was used. Include the screenshots of any files you may have fixed.
    b. What is the root user's password on the 'fixed' system?