

Command Line Workshop
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1. Download TerminalPractice folder off of canvas, unzip it, and put it on your desktop
2. Open Terminal:
 - a. Mac User: click on magnify glass in top right corner and search for terminal
 - b. PC User: go to start -> all programs -> accessories -> Command Prompt
3. Print the working directory
 - a. Mac User: pwd
 - b. PC User: cd
4. Change working directory to TerminalPractice
 - a. Both Mac and PC Users: cd Desktop/TerminalPractice
5. Print contents of directory
 - a. Mac User: ls
 - b. PC User: dir
6. Read DeleteMe.txt
 - a. Both Mac and PC Users: more DeleteMe.txt
7. Delete DeleteMe.txt
 - a. Mac User: rm DeleteMe.txt
 - b. PC User: del DeleteMe.txt
8. Make new directory Storage
 - a. Both Mac and PC Users: mkdir Storage
9. Change working directory to Storage
 - a. Both Mac and PC Users: cd Storage
10. Print contents of directory
 - a. Mac User: ls
 - b. PC User: dir
11. Change working directory back to TerminalPractice
 - a. Both Mac and PC Users: cd ..
 - b. Or: cd ~/Desktop/TerminalPractice
12. Move CopyAndMoveMe.txt file to Storage
 - a. Mac User: mv CopyAndMoveMe.txt
 - b. PC User: move CopyAndMoveMe.txt
13. Change working directory to Storage
 - a. Both Mac and PC Users: cd Storage
14. Print contents of directory
 - a. Mac User: ls
 - b. PC User: dir
15. Read contents of CopyAndMoveMe.txt
 - a. Both Mac and PC Users: more CopyAndMoveMe.txt
16. Change working directory back to TerminalPractice
 - a. Both Mac and PC Users: cd ..

- b. Or: `cd ~/Desktop/TerminalPractice`
- 17. Print contents of directory
 - a. Mac User: `ls`
 - b. PC User: `dir`
- 18. Change working directory to Storage
 - a. Both Mac and PC Users: `cd Storage`
- 19. Copy CopyAndMoveMe.txt back to TerminalPractice
 - a. Mac User: `cp CopyAndMoveMe.txt ..`
 - b. PC User: `copy CopyAndMoveMe.txt ..`
- 20. Print contents of directory
 - a. Mac User: `ls`
 - b. PC User: `dir`
- 21. Change working directory back to TerminalPractice
 - a. Both Mac and PC Users: `cd ..`
 - b. Or: `cd ~/Desktop/TerminalPractice`
- 22. Print contents of directory
 - a. Mac User: `ls`
 - b. PC User: `dir`
- 23. Change name of CopyAndMoveMe.txt to delete.txt
 - a. Mac User: `mv CopyAndMoveMe.txt delete.txt`
 - b. PC User: `move CopyAndMoveMe.txt delete.txt`
- 24. Delete delete.txt
 - a. Mac User: `rm delete.txt`
 - b. PC User: `del delete.txt`
- 25. Delete Storage Directory
 - a. Mac User: `rm -r Storage`
 - b. PC User: `rd Storage`
- 26. Print contents of directory
 - a. Mac User: `ls`
 - b. PC User: `dir`
- 27. Run MyBicycle.py
 - a. Mac User: `python3 MyBicycle.py`
 - b. PC User: `python MyBicycle.py`
- 28. Clear command line
 - a. Mac User: `clear`
 - b. PC User: `cls`
- 29. Login to FarmShare
 - a. `ssh <SUNetID>@rice.stanford.edu`
 - b. type in your password
 - c. 2-step authentication
- 30. Print contents of directory: `ls`
- 31. Open new tab in Terminal/Command Prompt
- 32. Login to FarmShare cluster using file transfer protocol
 - a. `sftp <SUNetID>@rice.stanford.edu`

- b. Password + 2-step authentication
- 33. Upload TerminalPractice folder to FarmShare
 - a. `put -r ~/Desktop/TerminalPractice`
- 34. Print contents of directory: `ls`
- 35. Change directory to TerminalPractice
 - a. `cd TerminalPractice`
- 36. Download MyBicycle.py file to your desktop
 - a. `get MyBicycle.py ~/Desktop`
- 37. Logout of sftp FarmShare and close tab
 - a. `exit`
- 38. Back in ssh FarmShare window print contents of directory: `ls`
- 39. Read VeryLongFile.txt
 - a. `more VeryLongFile.txt`
 - b. control + C (terminates command)
- 40. Count the number of lines in VeryLongFile.txt
 - a. `wc -l VeryLongFile.txt`
- 41. Unzip unsortedFile.bed.gz
 - a. `gunzip unsortedFile.bed.gz`
- 42. Print directory contents: `ls`
- 43. Count the number of lines in all of the bed files
 - a. `wc -l *.bed`
- 44. Print file sizes in the directory
 - a. `ls -lh`
- 45. Print the beginning of unsortedFile.bed
 - a. `head unsortedFile.bed`
- 46. Print the first 5 lines of unsortedFile.bed
 - a. `head -5 unsortedFile.bed`
- 47. Print the ending lines of unsortedFile.bed
 - a. `tail unsortedFile.bed`
- 48. Print the last 20 lines of unsortedFile.bed
 - a. `tail -20 unsortedFile.bed`
- 49. Sort unsortedFile.bed and store in new file sorted.bed
 - a. `sort -k1,1 -k2,2n -k3,3n unsortedFile.bed > sorted.bed`
- 50. Print the beginning of sorted.bed
 - a. `head sorted.bed`
- 51. Print the ending of sorted.bed
 - a. `tail sorted.bed`
- 52. Count the number of lines in all of the bed files
 - a. `wc -l *.bed`
- 53. Make a new file containing the sorted gene names from sorted.bed
 - a. `cut -f4 sorted.bed | sort > geneNames.txt`
- 54. Print the beginning of geneNames.txt
 - a. `head geneNames.txt`
- 55. Print the ending of geneNames.txt

a. tail geneNames.txt

56. Count the number of lines in geneNames.txt

a. wc -l geneNames.txt

57. Delete unsortedFile.bed

a. rm unsortedFile.bed

58. Compress sorted.bed

a. gzip sorted.bed

59. Print directory contents: ls

60. Print genes1.bed

a. more genes1.bed

61. Print genes2. bed

a. more genes2.bed

62. Make a new file containing sorted unique lines of genes1.bed and genes2.bed

a. cat genes1. bed genes2. bed | sort -k1,1 -k2,2n -k3,3n | uniq > genes3.bed

63. Print the number of lines in genes1.bed, genes2.bed, genes3.bed

a. wc -l genes*.bed

64. Print genes3.bed

a. more genes3.bed

65. Move up one directory

a. cd ..

66. delete TerminalPractice

a. rm -r TerminalPractice

67. Print contents of Directory

a. ls

68. Logout of FarmShare

a. logout