Laboratory Introduction to UNIX

Finding light in the black interface

1. Who are you?

   `whoami`

2. Where are you?

   `pwd`

3. What are the files and folders in this location?

   `ls`

4. Does this command line function have options?

   `man ls` (arrows, space, q)

5. List files in more detail? With hidden files?

   `ls -la`

6. List files by time last modified?

   `ls -lt`

Creating directories and files

Avoid using the following characters in file or folder names:
| , ! @ # % ^ & * ( ) { } [ ] + = ; : \ ` ? > < and use – or _ instead of spaces " ".

7. Can we make a new directory? Check that?

   `mkdir test`

   `ls`

8. Can we enter that directory? Check that?

   `cd test`

   `pwd`

9. You can move back to your home directory by typing

   `cd ..`

10. And can move to the root class directory by typing. Check that?

    `cd /`

    `pwd`

    `ls`

11. Move from here to the myfolder directory in your home directory:

    `cd home/qiime/test`

Creating files

12. Can we make a text file?

```
echo "this is a test"
echo "this is a test" > temp1.txt
```

13. Where is it? Can we see it?

```
ls
cat temp1.txt
more temp1.txt (space, q)
```

14. Can we add to the file?

```
echo "this is only a test" >> temp1.txt
```

15. Now what does the file look like?

```
more temp1.txt
ls -l
```

16. Can we add more by pressing just two keys?

```
echo "this is only a test" >> temp1.txt
echo "this is only a test" >> temp1.txt
more temp1.txt
```

17. Can we make a copy of the file?

```
cp temp1.txt copy1.txt
ls
```

18. Can we move the copy 'up' one directory?

```
mv copy1.txt ../
ls ../
```

19. Can we move it back with a new name?

```
mv ../copy1.txt ./copy2.txt
ls
```

20. Can we delete the copy?

```
rm copy2.txt
ls
```

21. Can we edit the file?

```
nano temp1.txt
gedit temp1.txt
emacs temp1.txt
```

Viewing large files

22. Download a file from the web page to your created test folder. Unzip the file. Which are the files?

```
unzip tape_archive.zip
```

23. Can we see the beginning of the file?

```
head tape3.txt
```

24. Can we see the end of the file?

```
tail tape3.txt
```

25. Can we search the file for a pattern/string?

```
grep ">" tape3.txt
```

26. What do the following commands do?

```
grep -v ">" tape3.txt
grep -n ">" tape3.txt
grep -c ">" tape3.txt
```

27. How else can we find out?

```
man grep
```

28. Can I join all three file into one?

```
cat tape1.txt tape2.txt tape3.txt > tapecat.txt
```

29. How many lines are in the file?

```
wc -l tapecat.txt
```

30. Can we count the number of files ../?

```
ls ./ | wc -l
```