Library Carpentry: The UNIX Shell: Reference

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Shell Cheat Sheet

Shell: Basics

`pwd` - print working directory

`man` - display the user manual

`history` - displays the history list with line numbers, use `n` to limit the list

`ls` - list contents of a directory

- `ls -l` - list file information
- `ls -lh` - list human readable file information
- `ls -F` - list files and directories (directories will have a trailing `/`)
- `ls -a` - list all files, including hidden files
- `ls *.txt` - list all files that end with `.txt`

`cd` change directory

`cd pathname` - takes you to the directory specified by `pathname`

`cd ~` - takes you to your home directory

`cd ..` - takes you up one directory

Shell: Interacting with Files

`mkdir` make a directory

`cat` print to shell or send file or files to output

`head` output first 10 lines of a file or files

`tail` output last 10 lines of a file or files

`mv` rename or move a file or files. Syntax for renaming a file: `mv FILENAME NEWFILENAME`

`cp` make a backup copy of a file or files. Syntax: `cp FILENAME NEWFILENAME`

`>` redirect output. Syntax with `cat`: `cat FILENAME1 FILENAME2 > NEWFILENAME`

`>>` redirect output by appending to the filename specified. Syntax with `cat`:
`cat FILENAME1 FILENAME2 >> NEWFILENAME`

`rm` remove a file or files. NB: *USE WITH EXTREME CAUTION!!!*

`rmdir -r` will delete a directory, even if it is not empty.

`rmdir -r-i` will delete a directory, even if it is not empty, but will ask you to confirm each deletion.

`touch` will update timestamp information on files. __

Shell: Wildcards

`?` a placeholder for one character or number

`*` a placeholder for zero or more characters or numbers

`[]` defines a class of characters

Examples

- `foobar?` : matches 7-character strings starting with `foobar` and ending with one character or number
- `foobar*` : matches strings that start with `foobar` and end with zero or more other characters or numbers
- `foobar*txt` : matches strings that start with `foobar` and end with `txt`
- `[1-9]foobar?` : matches 8-character strings that start that start with a number, have `foobar` after the number, and end with any character or number.

Shell: Counting and Mining

`wc` word count

- `-w` : count words
- `-l` : count lines
- `-c` : count characters

uniq reports or filters repeated lines in a file, use with -c to do a word count of the duplicates

sort sort input

`grep` global regular expression print

- `-c` : displays counts of matches for each file
- `-i` : match with case insensitivity
- `-w` : match whole words
- `-v` : exclude match
- `--file=FILENAME.txt` : use the file `FILENAME.txt` as the source of strings used in query
- `|` : (vertical bar character) send output from one command into another command

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Shell: Working with Free Text

`sed` is used to modify files, use `-e` flag to run multiple commands

`tr` translates or deletes characters in a file

- `[:punct:]` : punctuation characters
- `[:upper:]` : upper-case characters
- `[:lower:]` : lower-case alphabetic characters

`'''\n` translates every blank space into `\n` , then renders on a new line

`uniq` reports or filters repeated lines in a file, use with `-c` to do a word count of the duplicates