**Filters**

* cat count.txt tac count.txt: Reverse of cat function
* tee: tee is almost the same as cat, except that it has two identical outputs.

tac count.txt | tee tempt.txt | tac

* grep:

cat tennis.txt | grep Williams

Serena Williams, USA

Venus Williams, USA

* cut: The cut filter can select columns from files, depending on a delimiter or a count of bytes.

-d means delimiter, colon (:) is used as a delimiter, f means field.

aaron:x:1001:1001:aaron,,,:/home/aaron:/bin/bash

james:x:1005:1009:james,,,:/home/james:/bin/bash

walter:x:1006:1006:walter clarus:/home/walter:/bin/sh

cut -d: -f1-3 /etc/passwd | tail -3

aaron:x:1001

james:x:1005

walter:x:1006

* tr: It is used for translating and deleting characters.

cat clarusway.txt | tr -d e

way to rinvnt yourslf

cat clarusway.txt | tr [a-z] [A-Z]

WAY TO REINVENT YOURSELF

cat days.txt | tr ‘\n’ ‘ ‘

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

cat clarusway.txt | tr -d aeiou

Delete the vowels

* wc: Counting lines, words and characters.

wc tennis.txt

5 15 100 tennis.txt 🡺 5 lines, 15 words, 100 bits(chars)

wc -l tennis.txt 🡪 5

wc -w tennis.txt 🡪 15

wc -c tennis.txt 🡪 100

wc -m tennis.txt 🡪 characters

* sort: The sort filter will default to an alphabetical sort.

sort music.txt

Abba

Brel

Led Zeppelin

sort -r reverse order sorting

sort -f case insensitive sorting

sort -n numerical order sorting

* uniq: With uniq you can remove duplicates from a sorted list.

sort music.txt |uniq

Abba

Brel

Queen \*There was another Queen

* comm: Comparing streams (or files)
* column 1 lines unique to list1
* column 2 lines unique to list2
* column 3 lines that appear in both files

comm list1.txt list2.txt

* Abba
* Bowie
* Cure
* Queen
* Sweet
* Turner

## Control Operators

## ; 🡪More than one command can be used in a single line.

## & 🡪Command ends with & and doesn't wait for the command to finish.

## $? 🡪Command is used to check the status of last executed command. If status shows '0' then command was successfully executed and if shows '1' then command was a failure.

## && 🡪The shell will interpret && as a logical AND. When using && the second command is executed only if the first one succeeds (returns a zero exit status).

## || 🡪Represents a logical OR. The second command is executed only when the first command fails (returns a non-zero exit status).

## # 🡪Comment sign. Anything was written after # will be ignored.

## && and || 🡪Logical AND and logical OR to write an if-then-else structure on the command line. Below echo to display whether the rm command was successful.

## rm file1 && echo It worked! || echo It failed!

## \ 🡪Escape characters are used to remove the special meaning from a single character. A non-quoted backslash, \, is used as an escape character in Bash. It preserves the literal value of the next character that follows, with the exception of newline.

## | Operator | Description

## | -eq | equal

## | -ne | not equal

## | -gt | greater than

## | -lt | less than

## | -ge | greater than or equal

## | -le | less than or equal

## | = | equal

## | != | not equal

## | -z | Empty string

## | -n | Not empty string