

## Filter Commands:

1.To display the content of a file in ascending order

`sort file_name`

2.To display the content of a file in descending order

`sort -r file_name`

3.To display the no. of lines from top to bottom

`head -n file_name`    ex: `head -3 file_name`

4.To display the no. of lines from bottom to top

`tail -n file_name`    ex: `tail -4 file_name`

5.To display the uniq content without duplicates

`uniq file_name`

6.To count no. of duplicates in a file

`uniq -c file_name`

7.To display the duplicates in the file

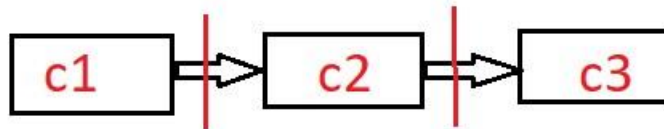
`uniq -d file_name`

8.To count the words present in the file

`wc`

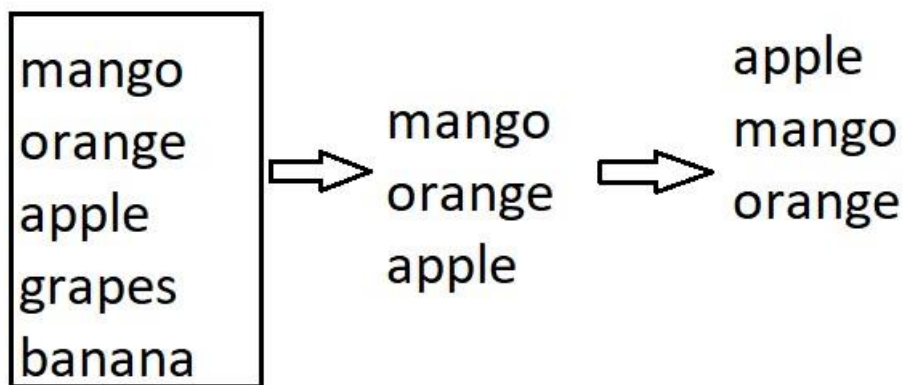
## Piping:

Piping is the process of redirecting the output of a particular command as an input for next command.



Symbol: |

Ex: `cat file-name | head -3 | sort`



## Linux I/O Redirection

Redirection is a process where we can copy the output of any command into new file/existing file.

### Types of Redirection

1. Input Redirection
2. Output Redirection
3. Error Redirection

Redirection can be done in 2 ways:

Using “>”: it will override the content

Using “>>”: it will not override the content

### 1.Input Redirection

By default, commands will be executed in the input redirection.

Syntax: `command < filename`

Ex: `cat < file1`

### 2.Output Redirection:

Redirecting the output of a particular command in separate file.

a. using “>”

Syntax: `command > filename`

Ex: `cat > file1`

b. using “>>”

Syntax: `command >> filename`

Ex: `cat >> file1`

### 3.Error Redirection:

Redirecting the error of a command to separate file.

Syntax: `command &> filename`

Ex: `./filename &> file1`

## Linux Regex [Regular Expression]

Regular expression is set of special characters that helps us to search for particular data and for matching particular pattern in a file.

### Commands:

1.grep

2.sed

**1.grep:** it is used to search for a character or matching word or pattern in a particular file.

syntax: `grep pattern filename`    ex: `grep hello file1`

**2.concatenating of characters/words:**

syntax: `grep ab filename`

**3.one/other:** if we are giving 2 characters as input, if one character is present the output should be displayed.

syntax: `grep -E 'a|b' filename`

**4.match end string:** searching for last word/character of a line.

syntax: `grep a$ filename`

**5.match starting string:** searching for first word/character of a line.

syntax: `grep ^a filename`

**sed[stream editor]:** it is used to replace the single character/word in a file.

syntax: `sed -i 's/old-content/new-content/' filename`

**to replace multiple character/words in a file.**

syntax: `sed -i -e 's/old-content/new-content/' -e 's/oldcontent/new-content/' -e 's/old-content/new-content/' filename`

## Networking Commands

**1.ifconfig:** it is used to display the network interface of a system.

syntax: `ifconfig`

**2.ping [packet internet groper]:** it is used to ensure that a computer can communicate with a specified device over the network.

ex: `ping 43.204.37.207`

**3.host:** it is used to find a domain name associated with ip address or find an ip address associated with domain name.

ex: `host amazon.com (or) host 43.204.37.207`

**4.hostname:** it will display the network name

syntax: `hostname`

**5.curl:** it is used to exchange the data between a device and a server through a terminal.

ex: `curl -o google.html https://www.google.com`

**6.wget:** it is used to download files from the internet.

ex: `wget http://example.com/file.txt`