

Task 1: Introduction to command line

We list all linux commands we are going to use during the practical session. We will go through them quickly now and detail them when we using them in the hands-on session.

Directory manipulation: creation, deletion, navigation and presentation

mkdir	# to create a directory
rmdir	# to remove a directory
cd	# to move current directory to a new directory, home, or parent directory
pwd	# to show current directory path
ls	# to show files in the current or a certain given directory.

Getting data from the web

wget	## row files or archives or directories such as blast, hmmer, genmark.
git	## for website such as GitHub or bit-bucket.

Compress or decompress data.

tar	## to compress or decompress files or folders
gzip	## to compress or decompress files or folders.
md5sum	## to make sure that the singature of the download match the size of the file download

File Manipulation

```
cp          ## copy file or directory
mv          ## move file or directory
grep        ## to search for a specific information in the file.
wc          ## to count words, characters or lines or all of them.
chmod +x file ## to make the file executable.
rm          ## remove the file
```

To display the file contents

```
cut -f1,2,3-7,9- -d p      # to show a certain field in the file separated by a certain p
echo "value"                # to screen print value
head -n nlines              # to show nlines from the top of the file
tail -n nlines              # to show nlines from the end of the file
more                        # to show file page by page. Press enter to move from one page to another and q to exist
sort -kn                   # to sort file based on a certain column
sort -kn,n -km,m           # to sort file based on multiple columns n and m
uniq                       ## to unique values
uniq -c                    ## to count the frequency of each value
awk                        ## this a program that allow complex manipulation of text file
```

Manipulating multiple files

```
join file1 file2           ## this join two files based on a common field.
diff file1 file2           ## to show the difference between two sorted files
```

Measuring the execution time

```
time command??            ## to calculate the execution time of a certain program or command
```

Loops: to iterate through a list of items in file or from pipe

```
while read listItem; do
    echo "$listItem";
done << file
```

```
ls *.fast | while read listItem; do
    echo "$listItem";
done << file
```