

λ

This is a short report of the commands used for each exercise in the session (lecture 2).

```
> cd 'Programming/UCA/MSc 1 Refreshers/Basic Tools/lecture_2'
> ls -l
-rw-rw-r-- 1 quentin quentin 439137 sept. 24 13:15 'Lecture_2_Basic tools.pdf'
-rw-rw-r-- 1 quentin quentin 108 sept. 24 13:44 practical_work.txt
> touch test_file.txt
> vim test_file.txt
Wrote some stuff
> ls -la
drwxrwxr-x 2 quentin quentin 4096 sept. 24 13:51 .
drwxrwxr-x 3 quentin quentin 4096 sept. 24 13:43 ..
-rw-rw-r-- 1 quentin quentin 439137 sept. 24 13:15 'Lecture_2_Basic tools.pdf'
-rw-rw-r-- 1 quentin quentin 88 sept. 24 13:51 ~/.lock.practical_work.txt#
-rw-rw-r-- 1 quentin quentin 396 sept. 24 13:51 practical_work.txt
-rw-rw-r-- 1 quentin quentin 84 sept. 24 13:49 test_file.txt
> chmod o+w 'test_file.txt'
> ls -l
-rw-rw-r-- 1 quentin quentin 439137 sept. 24 13:15 'Lecture_2_Basic tools.pdf'
-rw-rw-r-- 1 quentin quentin 396 sept. 24 13:51 practical_work.txt
-rw-rw-rw- 1 quentin quentin 84 sept. 24 13:49 test_file.txt
> chmod o-r 'test_file.txt'
> myVar="Hello World!"
> echo $myVar
Hello World!
> read user_name
Quentin
> read -p "What is your name?" other_user_name
What is your name?Quentin
> echo $user_name
Quentin
> echo $other_user_name
Quentin
> myVar="a"
> case $myVar in "a")
> echo "a"
> ;;
> "b")
> echo "b"
> ;;
> esac
a
> [ 2 -eq 3 ] && echo "smth"
smth
> [ 2 -eq 3 ] || echo "smth"
smth
> echo $( 3 + 2 )
3: command not found
> echo $(( 3 + 2 ))
5
> x=1;y=0
> [ ! $x -eq 1 ] || echo "number is not null"
number is not null
> myfunc()
> {
> echo "myfunc was called as: $@"
> x=2
> }
> x=1
> echo "x is $x"
x is 1
> myfunc 1 2 3
myfunc was called as: 1 2 3
> touch test_script.sh
> vim test_script.sh
```

```
#!/bin/bash
for i in $(seq 1 $2); do
    echo $1 $i " time"
done
```

```
> chmod a+x test_script.sh
> ./test_script.sh "HELLO" 10
HELLO 1 time
HELLO 2 time
HELLO 3 time
HELLO 4 time
HELLO 5 time
HELLO 6 time
HELLO 7 time
HELLO 8 time
HELLO 9 time
HELLO 10 time
```

Basic Tools:

1.

```
> cd 'Programming/UCA/MSc 1 Refreshers/Basic Tools'
> mkdir lecture_1
> mv ./copyme ./lecture_1/copyme
```

2.

```
> cd lecture_2
> mv ./test_script.sh ./exercise/test_script.sh
```

3. 4. 5.

```
> cd exercise
> touch file.1.1.1.txt
> vim file.1.1.1.txt
> cat file.1.1.1.txt
"Hello"
"Hello"
"Hello"
"world"
"world"
"*"
```

```
> less file.1.1.1.txt
```

```
"Hello"
"Hello"
"Hello"
"world"
"world"
"*"
file.1.1.1.txt (END)
```

6. 7. 8.

```
> tree ~/
```

Command 'tree' not found, but can be installed with:

```
sudo snap install tree # version 1.8.0+pkg-3fd6, or
sudo apt install tree # version 1.8.0-1
```

See 'snap info tree' for additional versions.

```
> sudo apt install tree
```

```
> sudo apt install tree
```

```
[sudo] password for quentin:
Reading package lists... Done
Building dependency tree
Reading state information... Done
```

The following packages were automatically installed and are no longer required:
 libfprint-2-tod1 libllvm9 python3-click python3-colorama
 Use 'sudo apt autoremove' to remove them.
 The following NEW packages will be installed:
 tree
 0 upgraded, 1 newly installed, 0 to remove and 49 not upgraded.
 Need to get 43,0 kB of archives.
 After this operation, 115 kB of additional disk space will be used.
 Get:1 http://fr.archive.ubuntu.com/ubuntu focal/universe amd64 tree amd64 1.8.0-1 [43,0 kB]
 Fetched 43,0 kB in 0s (229 kB/s)
 Selecting previously unselected package tree.
 (Reading database ... 196427 files and directories currently installed.)
 Preparing to unpack .../tree_1.8.0-1_amd64.deb ...
 Unpacking tree (1.8.0-1) ...
 Setting up tree (1.8.0-1) ...
 Processing triggers for man-db (2.9.1-1) ...

> tree ~/
 displays the full tree of directories and files under ~/

> tree /etc > tree_folder_structure

> less tree_folder_structure

```

/etc
├── acpi
│   ├── asus-keyboard-backlight.sh
│   ├── asus-wireless.sh
│   └── events
│       ├── asus-keyboard-backlight-down
│       ├── asus-keyboard-backlight-up
│       ├── asus-wireless-off
│       ├── asus-wireless-on
│       ├── ibm-wireless
│       ├── lenovo-undock
│       ├── thinkpad-cmos
│       └── tosh-wireless
├── ibm-wireless.sh
├── tosh-wireless.sh
├── undock.sh
├── adduser.conf
├── alsa
│   └── conf.d
│       ├── 10-samplerate.conf -> /usr/share/alsa/alsa.conf.d/10-samplerate.conf
│       ├── 10-speexrate.conf -> /usr/share/alsa/alsa.conf.d/10-speexrate.conf
│       ├── 50-arcam-av-ctl.conf -> /usr/share/alsa/alsa.conf.d/50-arcam-av-ctl.conf
│       ├── 50-jack.conf -> /usr/share/alsa/alsa.conf.d/50-jack.conf
│       ├── 50-oss.conf -> /usr/share/alsa/alsa.conf.d/50-oss.conf
│       ├── 50-pulseaudio.conf -> /usr/share/alsa/alsa.conf.d/50-pulseaudio.conf
│       ├── 60-upmix.conf -> /usr/share/alsa/alsa.conf.d/60-upmix.conf
│       ├── 60-vdownmix.conf -> /usr/share/alsa/alsa.conf.d/60-vdownmix.conf
│       ├── 98-usb-stream.conf -> /usr/share/alsa/alsa.conf.d/98-usb-stream.conf
│       ├── 99-pulseaudio-default.conf.example
│       └── 99-pulse.conf -> /usr/share/alsa/alsa.conf.d/pulse.conf
└── alternatives
  
```

Zip files

9. I use vim

10.

> wget http://download.geonames.org/export/zip/FR.zip

```

--2020-09-24 15:13:36-- http://download.geonames.org/export/zip/FR.zip
Resolving download.geonames.org (download.geonames.org)... 188.40.33.19
Connecting to download.geonames.org (download.geonames.org)|188.40.33.19|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 656006 (641K) [application/zip]
Saving to: 'FR.zip'
  
```

```

FR.zip          100%[=====>] 640,63K   820KB/s   in 0,8s
  
```

```

2020-09-24 15:13:44 (820 KB/s) - 'FR.zip' saved [656006/656006]
  
```

> ls

```

file.1.1.1.txt  FR.zip  test_script.sh  tree_folder_structure
  
```

> unzip FR.zip -d ./

```

Archive: FR.zip
  inflating: ./readme.txt
  inflating: ./FR.txt
  
```

11.

```
> less FR.zip
```

Archive:	FR.zip							
Length	Method	Size	Cmpr	Date	Time	CRC-32	Name	
2734	Defl:N	1116	59%	2020-09-24	03:22	542665e1	readme.txt	
5342316	Defl:N	654652	88%	2020-09-24	03:22	bda7faba	FR.txt	
5345050		655768	88%					2 files

Less <file>.zip seems to describe the content of the .zip file without having to extract its content. It is likely accessing a registry of the .zip content.

```
> less FR.txt
```

This file seems to contain tabular data.

```
> less readme.txt
```

Contains a description of the file: "This readme describes the GeoNames Postal Code dataset. The main GeoNames gazetteer data extract is here: <http://download.geonames.org/export/dump/>" "The data format is tab-delimited text in utf8 encoding, with the following fields :

country code	: iso country code, 2 characters
postal code	: varchar(20)
place name	: varchar(180)
admin name1	: 1. order subdivision (state) varchar(100)
admin code1	: 1. order subdivision (state) varchar(20)
admin name2	: 2. order subdivision (county/province) varchar(100)
admin code2	: 2. order subdivision (county/province) varchar(20)
admin name3	: 3. order subdivision (community) varchar(100)
admin code3	: 3. order subdivision (community) varchar(20)
latitude	: estimated latitude (wgs84)
longitude	: estimated longitude (wgs84)
accuracy	: accuracy of lat/lng from 1=estimated, 4=geonameid, 6=centroid of addresses or shape"

12.

```
> grep -rnw ./FR.txt -e '01000'
```

```
quentin@quentin-ubuntu-UCA:~/Programming/UCA/MSc 1 Refreshers/Basic Tools/lecture_2/exercise$ grep -rnw ./FR.txt -e '01000'
43116:FR      01000    Bourg-en-Bresse Auvergne-Rhône-Alpes      84    A
in      01      Arrondissement de Bourg-en-Bresse      012    46.2057
5.2258  5
43117:FR      01000    Saint-Denis-lès-Bourg Auvergne-Rhône-Alpes      8
4      Ain      01      Arrondissement de Bourg-en-Bresse      012    4
6.2022  5.1892  5
```

13.

```
> grep -rnw ./FR.txt -e 'Nice' > nice.txt
```

Files administration

14.

```
> mv ./FR.txt ./french_zipcodes.txt
```

15.

```
> ls -l french_zipcodes.txt
```

```
-rw-rw-r-- 1 quentin quentin 5342316 sept. 24 03:22 french_zipcodes.txt
```

16.

```
> chmod u+rwX french_zipcodes.txt
```

```
> chmod u-x french_zipcodes.txt
```

```
> chmod u-w french_zipcodes.txt
```

17.

```
> chmod u=rwx,g=r,o-r french_zipcodes.txt
```

18.

```
> chmod g=r '/Programming/UCA/MSc 1 Refreshers/Basic Tools/lecture_2/exercise'
```

```
> chmod g=r french_zipcodes.txt
```

So the group user can delete the file, we need to give write access to the directory

Shell Script:

19.

```
> hello="Hello World!"
> echo $hello
    Hello World!
```

20.

```
> LONG_FILES_LIST="ls"
> cd ..
> cd ..
> $LONG_FILES_LIST
    copyme
```

21.

```
>
```