Contents

Chapter I

Instructions

- Only this page will serve as reference; do not trust rumors.

- Watch out! This document could potentially change up to an hour before submission.

- These exercises are carefully laid out by order of difficulty - from easiest to hardest. We `will not` take into account a successfully completed harder exercise if an easier one is not perfectly functional.

- Make sure you have the appropriate permissions on your files and directories.

- You have to follow the submission procedures for every exercise.

- Your exercises will be checked and graded by your fellow classmates.

- On top of that, your exercises will be checked and graded by a program called Moulinette.

- Moulinette is very meticulous and strict in its evaluation of your work. It is entirely automated and there is no way to negotiate with it. So if you want to avoid bad surprises, be as thorough as possible.

- Exercises in Shell must be executable with /bin/sh.

- You cannot leave any additional file in your directory than those specified in the subject.

- Got a question? Ask your peer on the right. Otherwise, try your peer on the left.

- Your reference guide is called `Google / man / the Internet / ....`

- Check out the "C Piscine" part of the forum on the intranet.

- Examine the examples thoroughly. They could very well call for details that are not explicitly mentioned in the subject...

- By Odin, by Thor! Use your brain!!!

The time and date displayed on the intra indicate the deadline for
your submission. Past that deadline, you won't be able to hand in
anything more. These time and date also indicate the start of the
peer-evaluation period for the corresponding C Piscine date. This
peer-evaluation period lasts exactly 24hrs. Once those 24hrs are
up, your missing peer-grading will become 0s and you'll receive
Moulinette's grade.

Chapter II

Foreword

Here are the lyrics for `City Hunter`'s theme song "Moonlight Shadow":

```
The last time ever she saw him
Carried away by a moonlight shadow
He passed on worried and warning
Carried away by a moonlight shadow.
Lost in a riddle that Saturday night
Far away on the other side.
He was caught in the middle of a desperate fight
And she couldn't find how to push through

The trees that whisper in the evening
Carried away by a moonlight shadow
Sing a song of sorrow and grieving
Carried away by a moonlight shadow
All she saw was a silhouette of a gun
Far away on the other side.
He was shot six times by a man on the run
And she couldn't find how to push through

[Chorus]
I stay, I pray
See you in Heaven far away...
I stay, I pray
See you in Heaven one day.

Four A.M. in the morning
Carried away by a moonlight shadow
I watched your vision forming
Carried away by a moonlight shadow
A star was glowing in the silvery night
Far away on the other side
Will you come to talk to me this night
But she couldn't find how to push through

[Chorus]
```

```
Far away on the other side.
Caught in the middle of a hundred and five
The night was heavy and the air was alive
But she couldn't find how to push through
Carried away by a moonlight shadow
Carried away by a moonlight shadow
Far away on the other side.
```

Unfortunately, this topic has nothing to do with `City Hunter`.

Chapter III

Exercise 00 : Pre-requisites

	Exercise : 00
	Pre-requisites
Notes : n/a	

- Register to all projects for the next 4 weeks on the intranet.

- Write an e-mail to `kwame@42.fr`.

- The subject of that email should be:

```
[Sir general deputy director][login][let me flatter you]
```

- Write nice things in the e-mail, using at least the following words:

```
42; autograph; master of the Universe; handsome; strong; idol; huge;
    crank handle
```

Evidently "login" will be YOUR login.

Chapter IV

Exercise 01 : testDay00

	Exercise 01
	What are attributes anyway ?
Turn-in directory : *ex*01/	
Files to turn in : `testDay00.tar`	
Allowed functions : `None`	
Notes : `n/a`	

- Create a file called `testDay00` in your submission directory.

- Figure out a way for the output to look like this (except for the "total 1" line):

```
$> ls -l
total 1
-r--r-xr-x  1 login  wheel  40 Jun  1 23:42 testDay00
$>
```

- Once you've achieved the previous steps, execute the following command to create the file to be submitted: `tar -cf testDay00.tar testDay00`.

⚠️ "login" and "wheel" will be respectively replaced by your login and
your group.

⚠️ A year will be accepted instead of the time, on the timestamp of the
file.

Chapter V

Exercise 02 : Oh yeah, mooore...

	Exercise 02
	Oh yeah, mooore...
Turn-in directory : *ex02/*	
Files to turn in : `exo2.tar`	
Allowed functions : `None`	
Notes : `n/a`	

- Create the following files and directories. Do what's necessary so that when you use the `ls -l` command in your directory, the output will looks like this :

```
$> ls -l
total 42
drwx--xr-x  2 login  wheel  XX Jun  1 20:47 test0
-rwx--xr--  1 login  wheel   4 Jun  1 21:46 test1
dr-x---r--  2 login  wheel  XX Jun  1 22:45 test2
-r-----r--  2 login  wheel   1 Jun  1 23:44 test3
-rw-r----x  1 login  wheel   2 Jun  1 23:43 test4
-r-----r--  2 login  wheel   1 Jun  1 23:44 test5
lrwxr-xr-x  1 login  wheel   5 Jun  1 22:20 test6 -> test0
$>
```

- Once you've done that, run `tar -cf exo2.tar *` to create the file to be submitted.

> ⚠ "login" & "wheel" will respectively be replaced by your login and your group.

⚠ You won't be able to have the same "total 42" line as shown in the example.

⚠ Don't worry about what you've got instead of "XX".

⚠ A year will be accepted instead of the time, on the timestamp of the files.

Chapter VI

Exercise 03 : Connect me!

	Exercise 03
	Kerberos
Turn-in directory : *ex03/*	
Files to turn in : `klist.txt`	
Allowed functions : `None`	
Notes : `n/a`	

- Make sure you have a valid (non-expired) Kerberos ticket. If you don't have one yet, get one.

- Once you've got at least one Kerberos ticket, write a list of all your tickets into a file named klist.txt

> The file's name was not chosen randomly.

> Those commands will be of use later in the day, so try not to forget them!

Chapter VII

Exercise 04 : Who am I ?

	Exercise 04
	Who am I ?
Turn-in directory : *ex04/*	
Files to turn in : `who_am_i.sh`	
Allowed functions : `None`	
Notes : `n/a`	

- Now that you have a Kerkebos ticket, it's time to find out who you are!

- As you may already know, all users at the school are on LDAP: some sort of rudimentary digital phonebook - for those who remember what a phonebook is...

- In a file called `who_am_i.sh`, type in the command that will return only the value of the distinguished name.

- For example, with a "test" Kerberos ticket :

```
%>sh who_am_i.sh
uid=test,ou=2013,ou=people,dc=42,dc=fr
%>
```

All commands to communicate with LDAP start with ... ldap.

The first four lines (starting with SASL) will never be taken into account for mysterious reasons you'll understand later on.

Chapter VIII

Exercise 05 : Who's with me ?

	Exercise 05
	Who's with me ?
Turn-in directory : *ex05/*	
Files to turn in : `people.sh`	
Allowed functions : `None`	
Notes : `n/a`	

- Now that you understand the basics of LDAP (sort of), you can start looking for people.

- In a file called `people.sh`, type in the command that will list the `cn` list for all accounts that have a `uid` starting with `'z'`. This list will only show the `cn`, in reverse alphabetical order, and NOT case-sensitive. There shouldn't be any unecessary empty lines.

> LDAP search-filters have a specific syntax.

Chapter IX

Exercise 06 : Hello!

	Exercise 06
	Phone number
Turn-in directory : *ex06/*	
Files to turn in : `mobile-phone.ldif`	
Allowed functions : `None`	
Notes : `n/a`	

- Now that you're LDAP experts, you are going to be able to add your phone number into the `mobile` field.

> 💡 Add your real number: your future teammates will be happy to know how to reach you!

- Here's an LDIF file template :

```
dn: uid=pnom,ou=people,dc=42,dc=fr
changetype: modify
delete: pouette
```

- To check if your command has worked, try to look yourself up on LDAP!

> 💡 Don't hesitate to fill in other fields if you're up for it. However, you don't have all the permissions, we're not idiots ;)

You can change your email address any time, via the 'email-address' field.

Chapter X

Exercise 07 : midLS

	Exercise 07
	midLS
Turn-in directory : *ex07/*	
Files to turn in : `midLS`	
Allowed functions : `None`	
Notes : `n/a`	

- In a `midLS` file, place the command line that will list all files and directories in your current directory (except for hidden files or any file that starts by a dot - yes, that includes double-dots), separated by a comma, by order of creation date. Make sure directories' names are followed by a slash character.

What has not been asked for should not be done!

RTFM!

Chapter XI

Exercise 08 : Z

	Exercise 08
	Only the best know how to display Z
Turn-in directory : *ex08/*	
Files to turn in : `z`	
Allowed functions : `None`	
Notes : `n/a`	

- Create a file called `z` that returns "Z", followed by a new line, whenever the command `cat` is used on it.

```
?>cat z
Z
?>
```

Chapter XII

Exercise 09 : diff

	Exercise 09
Turn-in directory : *ex09/*	
Files to turn in : `b`	
Allowed functions : `None`	
Notes : `n/a`	

- Create a file `b`, so that :

```
    %>cat -e a
STARWARS$
Episode IV, A NEW HOPE It is a period of civil war.$
$
Rebel spaceships, striking from a hidden base, have won their first victory against the evil
    Galactic Empire.$
During the battle, Rebel spies managed to steal secret plans to the Empire's ultimate weapon, the
    DEATH STAR,$
an armored space station with enough power to destroy an entire planet.$
$
Pursued by the Empire's sinister agents, Princess Leia races home aboard her starship, custodian of
    the stolen plans that can save her people and restore freedom to the galaxy...$
$
```

```
%>diff a b > sw.diff
```

```
man patch
```

Chapter XIII

Exercise 10 : clean

	Exercise 10
Turn-in directory : *ex10/*	
Files to turn in : `clean`	
Allowed functions : `None`	
Notes : `n/a`	

- In a file called `clean` place the command line that will search for all files - in the current directory as well as in its sub-directories - with a name ending by ~, or a name that starts and ends by `#`.

- The command line will show and erase all files found.

- Only one command is allowed: no ';' or '&&' or other shenanigans.

man find

Chapter XIV

Exercise 11 : Illusions, not tricks, Michael...

Exercise 11	
Illusions, not tricks, Michael...	
Turn-in directory : *ex*11/	
Files to turn in : `ft_magic`	
Allowed functions : `None`	
Notes : `n/a`	

- Create a magic file called `ft_magic` that will be formatted appropriately to detect files of `42 file` type, built with a `"42"` string at the 42nd byte.

💡 `man file`