

C Piscine
Shell 00

Summary: This document is the subject for the Shell 00 module of the C Piscine @ 42.

Version: 4

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# 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 <u>cannot</u> leave <u>any</u> 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...

#### 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]

C Piscine

Shell 00

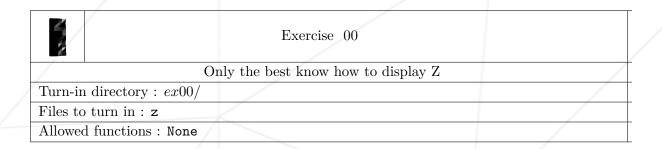
Far away on the other side.

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 : Z

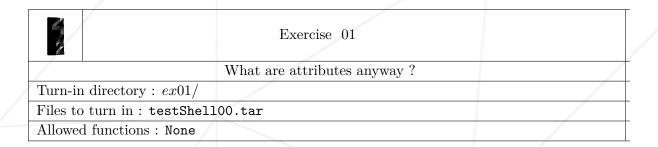


• Create a file called **z** that returns "Z", followed by a new line, whenever the command cat is used on it.

?>cat z
Z
?>

#### Chapter IV

#### Exercise 01: testShell00



- Create a file called testShell00 in your submission directory.
- Figure out a way for the output to look like this (except for the "total 1" line):

```
%> ls -1
total 1
-r--r-xr-x 1 XX XX 40 Jun 1 23:42 testShell00
%>
```

• Once you've achieved the previous steps, execute the following command to create the file to be submitted: tar -cf testShell00.tar testShell00.



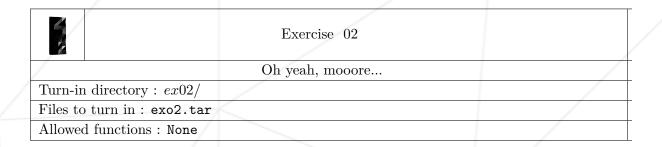
Don't worry about what you've got instead of "XX".



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

#### Chapter V

# Exercise 02: Oh yeah, mooore...



• 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 -1
total XX
drwx--xr-x 2 XX XX XX Jun 1 20:47 test0
-rwx--xr-- 1 XX XX 4 Jun 1 21:46 test1
dr-x--r-- 2 XX XX XX Jun 1 22:45 test2
-r---r-- 2 XX XX 1 Jun 1 23:44 test3
-rw-r---x 1 XX XX 2 Jun 1 23:43 test4
-r---r-- 2 XX XX 1 Jun 1 23:44 test5
lrwxrwxrwx 1 XX XX 5 Jun 1 22:20 test6 -> test0
%>
```

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



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: SSH me!

|                             | Exercise 03 |  |
|-----------------------------|-------------|--|
| /                           | SSH Key     |  |
| Turn-in directory : $ex03/$ |             |  |
| Files to turn in : id_rsa_p |             |  |
| Allowed functions : None    |             |  |

- Create your own SSH key. Once it is done:
  - $\circ\,$  Add your public key to your repository, in a file name id\_rsa\_pub
  - Update your ssh key on the intranet. This will allow you to push the repository to our git server.



The file's name was not chosen randomly.



Make sure you understand the difference between the public key and the private key.

# Chapter VII

Exercise 04: midLS

|                             | Exercise 04            |  |
|-----------------------------|------------------------|--|
| /                           | $\operatorname{midLS}$ |  |
| Turn-in directory : $ex04/$ |                        |  |
| Files to turn in: midLS     |                        |  |
| Allowed functions: None     |                        |  |

• 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 modification date. Make sure the directory's names are followed by a slash character.



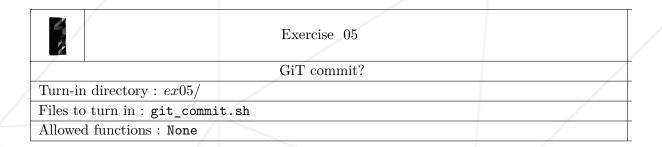
What has not been asked for should not be done!



RTFM!

# Chapter VIII

Exercise 05: GiT commit



• Create a shell script that displays the ids of the last 5 commits of your git repository.

```
%> bash git_commit.sh | cat -e
baa23b54f0adb7bf42623d6d0a6ed4587e11412a$
2f52d74b1387fa80eea844969e8dc5483b531ac1$
905f53d98656771334f53f59bb984fc29774701f$
5ddc8474f4f15b3fcb72d08fcb333e19c3a27078$
e94d0b448c03ec633f16d84d63beaef9ae7e7be8$
%>
```

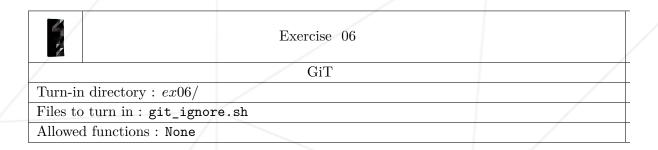
To test your script, we will use our own environment.



RTFM

### Chapter IX

Exercise 06: gitignore



• In this exercice, you will write a short shell script that lists all the existing files ignored by your GiT repository. Example:

```
%> bash git_ignore.sh | cat -e
.DS_Store$
mywork.c~$
%>
```

To test your script, we will use our own environment.



#### Chapter X

Exercise 07: diff



#### Exercise 07

Turn-in directory : ex07/Files to turn in : b

Allowed functions: None

• 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...$

$
```

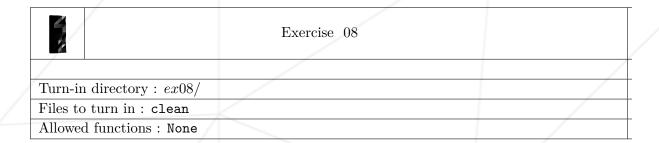
%>diff a b > sw.diff



man patch

#### Chapter XI

#### Exercise 08: clean



- 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  $\sim$ , or a name that start and end by #
- The command line will show and erase all files found.
- Only one command is allowed: no ';' or '&&' or other shenanigans.



man find

# Chapter XII

Exercise 09: Illusions, not tricks, Michael...

| 1                           |  | Exercise 09                    |  |
|-----------------------------|--|--------------------------------|--|
|                             |  | Illusions, not tricks, Michael |  |
| Turn-in directory : $ex09/$ |  |                                |  |
| Files to turn in : ft_magic |  |                                |  |
| Allowed functions : None    |  |                                |  |

• 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

# Chapter XIII

# Submission and peer-evaluation

Turn in your assignment in your Git repository as usual. Only the work inside your repository will be evaluated during the defense. Don't hesitate to double check the names of your files to ensure they are correct.

As these assignments are not verified by a program, feel free to organize your files as you wish, as long as you turn in the mandatory files and comply with the requirements.



You need to return only the files requested by the subject of this project.