

C Piscine
Shell 00

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

Version: 4.5

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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 / ....
- 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]

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Shell 00

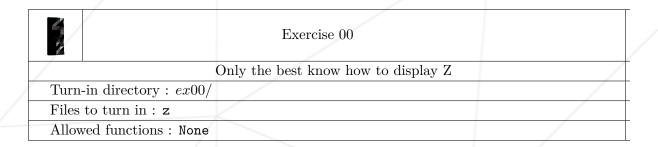
Far away on the other side.

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



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

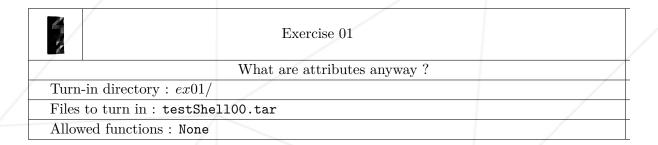
?>cat z
Z
?>



Google is your friend.

#### 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 -l
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".

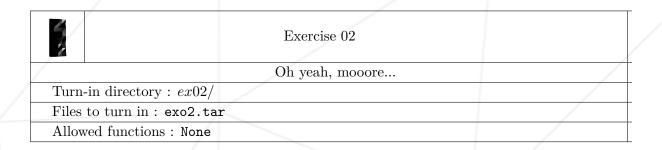


A year will be accepted instead of the time, on the timestamp of the file.

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#### 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------ 2 XX XX 1 Jun 1 23:44 test3
-rw-r---x 1 XX XX 2 Jun 1 23:43 test4
-r------ 2 XX XX 1 Jun 1 23:44 test5
lrwxrwxrwx 1 XX XX 5 Jun 1 22:20 test6 -> test0
%>
```

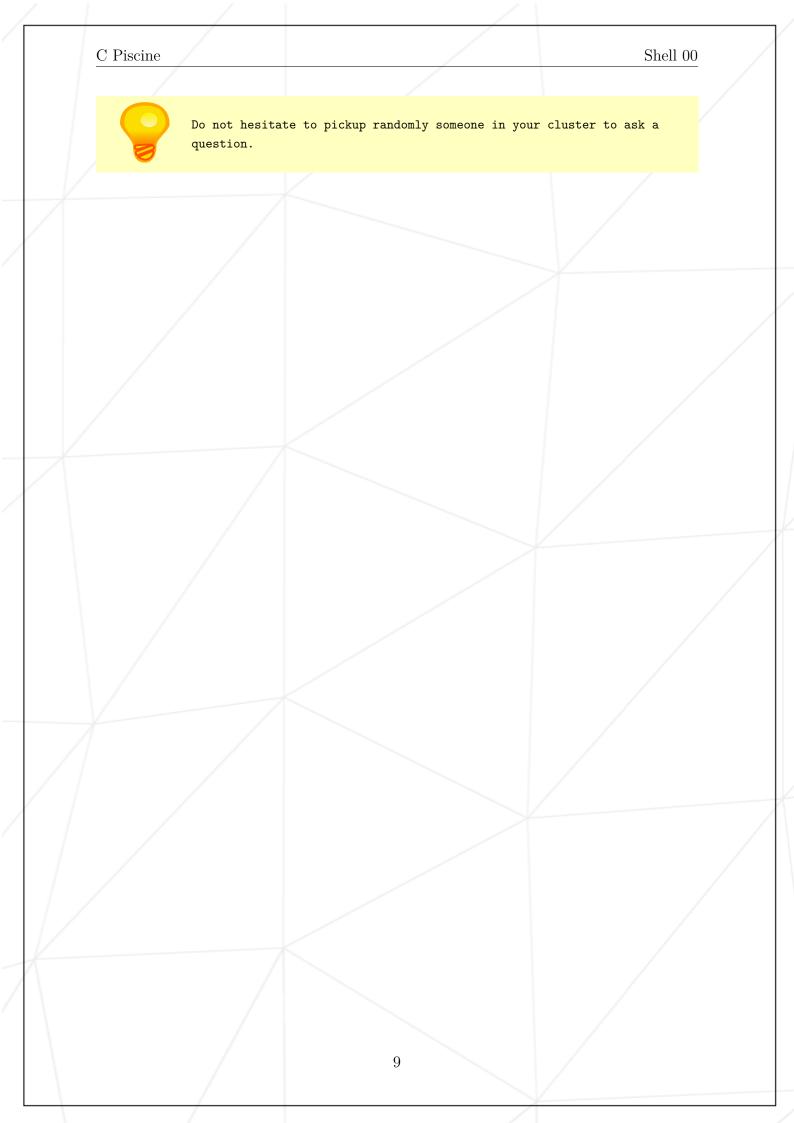
• Once you've done that, run tar -cf exo2.tar \* to create the file to be submitted.



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!

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

- Create your own SSH key. Once it is done:
  - 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.



Did you check with your left neighbor ?

# 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 and a space, 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!



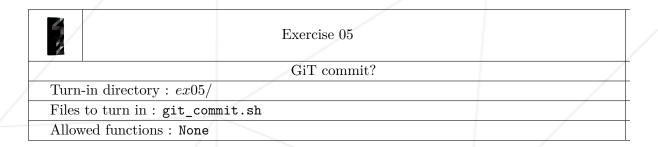
RTFM!



Git push regularly.

# 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!



The first retry delay is short, do not hesitate to trigger an intermediate evaluation to measure your progres !

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#### Milestone Achieved, Keep Going!

You have reached the end of the mandatory exercises to validate this project.

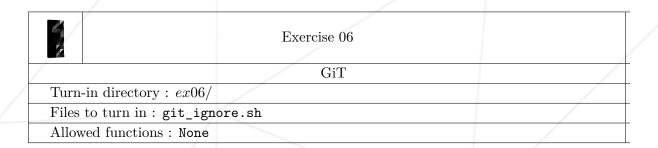
It's up to you to decide if you want to continue with the following optional exercises or switch to your next project. Both paths will make you see useful elements one day or another.

To make your choice please consider the following elements:

- The very first exam is about C programming. So you may have already experienced the very first C project before. Same for the rush at the end of the week (you'll learn soon about the rush).
- Your excellence in this Piscine will be evaluated on multiple factors. The completion of each project is one of them, but the overall progress through the entire list of projects of the Piscine is another. Choose wisely to optimize your results.
- It will always be possible to try the same project again in a couple of days/weeks, until the end of the Piscine.
- Keeping synchronised with your peers ensure a better collaboration.

# 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.



RTFM!



Get inspired by others, do not let them do your job.

## 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



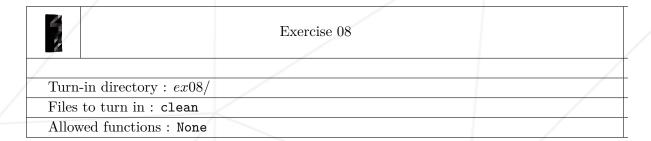
man patch



Do not believe any source of information: always make your own tests, controls and verifications.

# 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



Collaboration is a key to success.

# Chapter XII

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

	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



Failure is part of your learning journey.

# 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.



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