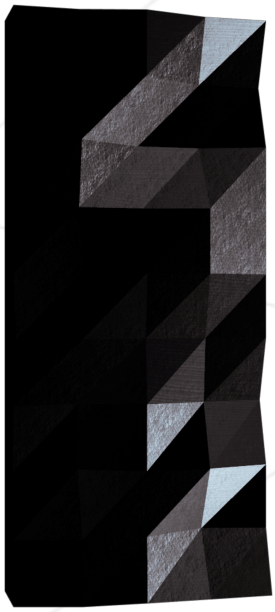

C Piscine

Shell 00

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

Version: 4.5

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 / ...`.
- 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]
```

```
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

	Exercise 00
Only the best know how to display Z	
Turn-in directory : *ex*00/	
Files to turn in : `z`	
Allowed functions : `None`	

- 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.`

Did you check with your right neighbor ?

Chapter V

Exercise 02: Oh yeah, mooore...

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

- 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 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.

Do not hesitate to pickup randomly someone in your cluster to ask a question.

Chapter VI

Exercise 03: SSH me!

	Exercise 03
SSH Key	
Turn-in directory : $ex03/$	
Files to turn in : `id_rsa_pub`	
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
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

	Exercise 05
GiT commit?	
Turn-in directory : $ex05/$	
Files to turn in : `git_commit.sh`	
Allowed functions : `None`	

- 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 !`

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

	Exercise 06
GiT	
Turn-in directory : *ex*06/	
Files to turn in : `git_ignore.sh`	
Allowed functions : `None`	

- 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

	Exercise 08
Turn-in directory : *ex*08/	
Files to turn in : `clean`	
Allowed functions : `None`	

- 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 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 : *ex*09/	
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.`