

# PHP Bootcamp

Day 01

 $Staff\ 42\ {\tt piscine 042.fr}$ 

Summary:

This document is the day01's subject for the PHP bootcamp.

# Contents

1	roreword	2
II	General Instructions	4
III	Exercise 00 : HW	5
IV	Exercise 01: mlX	6
V	Exercise 02: to the Divine	7
VI	Exercise 03 : ft_split	8
VII	Exercise 04 : aff_param	9
VIII	Exercise 05 : epur_str	10
IX	Exercise 06: ssap	11
X	Exercise 07: rostring	12
XI	Exercise 08 : ft_is_sort	13
XII	Exercise 09 : ssap - the return -	14
XIII	Exercise 10 : do_op	15
XIV	Exercise 11 : do_op_2	16
XV	Exercise 12 : search_it!	17
XVI	Exercise 13 : sing_it!	18
XVII	Exercise 14: The hesitating agent	19

#### Chapter I

#### Foreword

Un poisson au fond d'un étang Qui faisait des bulles Qui faisait des bulles Un poisson au fond d'un étang Qui faisait des bulles Pour passer le temps

Un oiseau vint près de l'étang Regarder les bulles Regarder les bulles Un oiseau vint près de l'étang Regarder les bulles Pour passer le temps

Que fais-tu joli poisson blanc?
Moi je fais des bulles
Moi je fais des bulles
Que fais-tu joli poisson blanc?
Moi je fais des bulles
Pour passer le temps!

Plus j'en fais, plus je suis content Plus je fais des bulles (bis) Plus j'en fais, plus je suis content Des rouges et des bleues Selon le courant.

Le poisson tout en discutant A fait une bulle (bis) Le poisson tout en discutant A fait une bulle Pour monter dedans.

Et la bulle porté par le vent Ah! la belle bulle (bis) Et la bulle porté par le vent A pris son envol Le poisson dedans.

L'oiseau est tombé dans l'étang En voyant la bulle (bis) L'oiseau est tombé dans l'étang En voyant la bulle Du poisson volant.

Maintenant au fond de l'étang L'oiseau fait des bulles (bis) Maintenant au fond de l'étang L'oiseau fait des bulles Pour monter dedans.

Pierre Chêne, chanté par Raymond Fau

#### Chapter II

#### General 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.
- Only the work submitted on the repository will be accounted for during peer-2-peer correction.
- As when you did C Bootcamp, your exercises will be corrected by your peers AND/OR by 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.
- Using a forbidden function is considered cheating. Cheaters get -42, and this grade is non-negotiable.
- 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.
- You <u>cannot</u> leave <u>any</u> additional file in your repository 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 / the Internet / http://www.php.net / ....
- Think of discussing on the Forum. The solution to your problem is probably there already. Otherwise you will start the conversation.
- 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!!!

# Chapter III

Exercise 00: HW

	Exercise 00	
/	HW	
Turn-in directory : $ex00/$		
Files to turn in : hw.php		
Allowed functions: The who	ole standard PHP library	
Notes: n/a		/

Reminder: PHP is really easy. It's like C, except that we do not declare the variables. You just place a dollar sign in front of them, they are not typed, and there in no main. The rest, is -almost- a detail.

Today, we will stay on PHP in command line. Start by creating a small program, quite simple, called hw.php. This program must greet the world with its famous message.



Note: MMORPG Day (Massive Moulinette Online Rules PHP Geniuses)

# Chapter IV

Exercise 01: mlX

	Exercise 01	
/	mlX	/
Turn-in directory : $ex01/$		
Files to turn in : mlx.php	K	/
Allowed functions: The wh	ole standard PHP library	
Notes : n/a		

Since you are all super comfortable with minilibX, I am sorry to inform you that there are no PHP binding that you can use here. This exercise has nothing to do with graphics nor with maths. Nope, what you need to create, is a program that can display 1000 times the letter X, a newline, and with the constraint that it cannot go over 100 chars.

[TL;DP]

#### Chapter V

#### Exercise 02: to the Divine

	Exercise 02	
/	to the Divine	/
Turn-in directory : $ex02/$		
Files to turn in : oddeven	.php	
Allowed functions: The w	hole standard PHP library	
Notes : n/a		

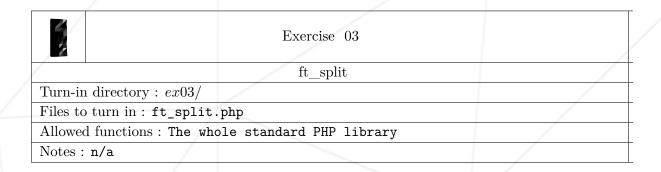
As the Wise Old Man used to say, it's thanks to Olympia, the detergent of the Gods that the laundry is so soft and smells so good. But if you think about it, there was only 1 chance out of 2 to wash the right pile of laundry with it. It depended on whether it had an even or an odd number. Create a program in php that will kindly ask of you a pile number, and that will inform you if it's even (therefore washed with Olympia) or if it's odd.

```
$> ./oddeven.php
Enter a number: 42
The number 42 is even
Enter a number: 0
The number 0 is even
Enter a number:
'' is not a number
enter a number: toto
'toto' is not a number
enter a number: 21
the number 21 is odd
enter a number: 99cosmos
'99cosmos' is not a number
Entrez un nombre: ^D
$>
```

Pay attention to the example, in particular spaces, the uppercases and the exact messages. At the end, it a 'CTRL-D' to exit. And the readline library is not a part of the standard PHP library.

# Chapter VI

#### Exercise 03: ft\_split



Create the ft\_split function. It will take a string as argument, and will return a sorted array with the different words, initially separated by one or more spaces from the original string. Your ft\_split.php submitted will be included in a php test file.

```
'?PHP

include("ft_split.php");

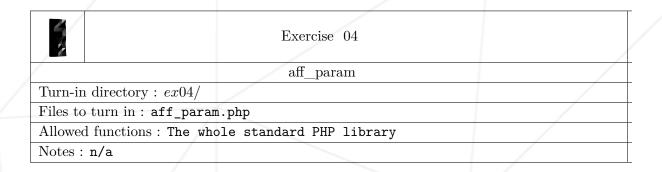
print_r(ft_split("Hello World AAA"));

?>
```

```
$> ./main.php
Array
(
     [0] => AAA
     [1] => Hello
     [2] => World
)
$>
```

# Chapter VII

Exercise 04: aff\_param



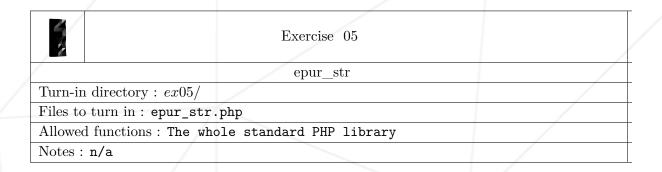
Very basic, this program displays its command line arguments in the order received. The name of the program isn't displayed.

```
$> ./aff_param.php
$> ./aff_param.php toto ahah foo bar quax
toto
ahah
foo
bar
quax

$>
```

# Chapter VIII

Exercise 05: epur\_str



This program takes one unique argument and reduces to a single space between each word, and none at the beginning and at the end of the string. There are only spaces, no tabulation or anything.

```
$> ./epur_str.php
$> ./epur_str.php "Hello, how do do ?"
Hello, how do you do ?
$> ./epur_str.php " Hello World "
Hello World
$>
```

# Chapter IX

Exercise 06: ssap

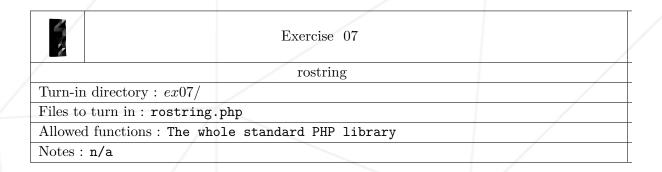
Exercise 06	
ssap	
ole standard PHP library	
	ssap

Do not confuse it with the enterprise management software SAP, it is for you the chance to mix the prior two exercises. The sum of words contained in all the arguments (except the name of the program itself) are splited, sorted and displayed.

```
$> ./ssap.php
$> ./ssap.php foo bar
bar
foo
$> ./ssap.php foo bar "yo man" "Here is my, two words" Xibul
Here
Xibul
bar
is
foo
man
my,
two
words
yo
$>
```

#### Chapter X

# Exercise 07: rostring

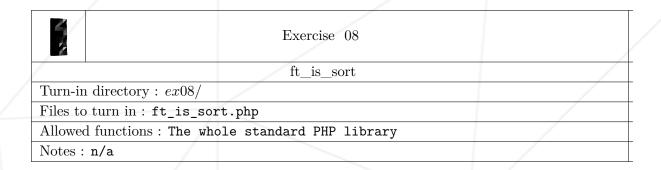


Your program will take a string as argument, and will place the first word (space separated) at the last spot. The whole thing is then re- presented, with 1 space only between each word.

```
$> ./rostring.php
$> ./rostring.php sdfkjsdkl sdkjfskljdf
sdfkjsdkl
$> ./rostring.php "hello world aaa" fslkdjf
world aaa hello
$>
```

# Chapter XI

#### Exercise 08: ft\_is\_sort

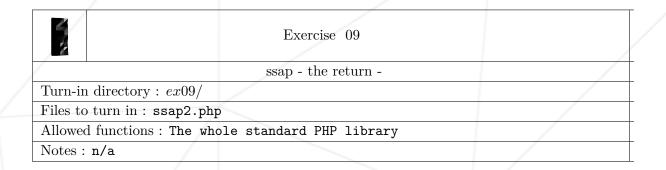


You need to create a little function that will reply true or false according to whether the array passed as argument is sorted or not.

```
$> ./main.php
The array is not sorted
$>
```

#### Chapter XII

#### Exercise 09: ssap - the return -



Get back to your ssap.php. You need to do the same thing again (take all the words from all the parameters and sort them) but you need to change the sorting rule: now it will need to be case insensitive and place all the characters in alphabetical order first, then numbers, and finally all the other characters, each in the following 3 groups following the ASCII order.

```
$> ./ssap2.php
$> ./ssap2.php toto tutu 4234 "_hop XXX" ## "1948372 AhAhAh"
AhAhAh
toto
tutu
XXX
1948372
4234
##
_hop
$>
```

# Chapter XIII

Exercise 10: do\_op

	Exercise 10	
	do_op	
Turn-in directory : $ex10/$		
Files to turn in : do_op.php		
Allowed functions: The who	le standard PHP library	
Notes : n/a		

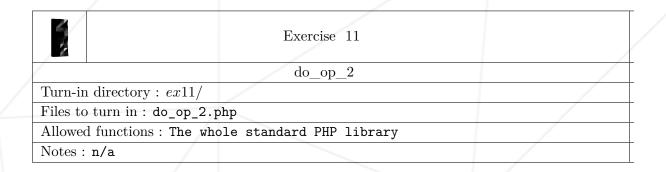
This PHP program will take 3 arguments. The second is an arithmetic operation amongst: '+', '-', '\*', '/', '%'. The first and the third are numbers. You need to make this operation and display the result. The program doesn't manage errors, except the number of arguments given. Spaces and tabulations can be presented in all 3 arguments.

```
$> ./do_op.php
Incorrect Parameters
$> ./do_op.php 1 + 3
4
$> ./do_op.php " 1" " +" " 3"
4
$> ./do_op.php " 1" " *" " 3"
3
$> ./do_op.php 42 "% " 3
```

Note: respect the error message.

#### Chapter XIV

# Exercise 11: do\_op\_2

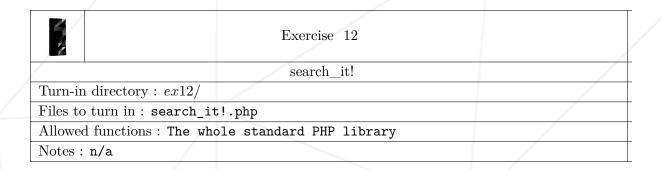


This time, only 1 argument is on the menu. That one contains the whole calculation that needs to be done. This calculation will always be under the following format *number operator number*. A new error message "Syntax Error" will now complete the prior message in case the syntax isn't correct. There can be no space between the numbers and the operator, or there can be many. The expected results is the same.

```
$> ./do_op_2.php
Incorrect Parameters
$> ./do_op_2.php toto
Syntax Error
$> ./do_op_2.php "42*2"
84
$> ./do_op_2.php " 42 / 2 "
21
$> ./do_op_2.php "six6*7sept"
Syntax Error
$> ./do_op_2.php '`rm -rf ~/`;'
Syntax Error
```

# Chapter XV

# Exercise 12: search\_it!

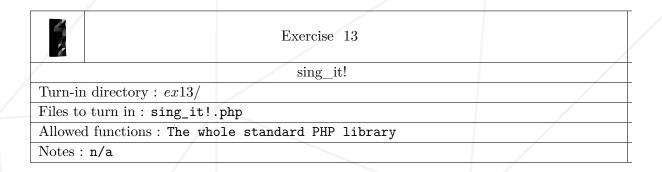


Your goal is to create a program that will display the corresponding value to a key given as first argument amongst an unlimited number of couples formated like this: "key:value" given as following arguments.

```
$> ./search_it!.php
$> ./search_it!.php toto
$> ./search_it!.php toto "key1:val1" "key2:val2" "toto:42"
42
$> ./search_it!.php toto "toto:val1" "key2:val2" "toto:42"
42
$> ./search_it!.php "toto" "key1:val1" "key2:val2" "0:hop"
$> ./search_it!.php "0" "key1:val1" "key2:val2" "0:hop"
hop
$>
```

#### Chapter XVI

# Exercise 13: sing\_it!



As you might have noticed, the sense of humor that was a defining part of the exercises yesterday and at the beginning of this subject has somehow gone. Let us fix this now. Your new goal is to be amongst the first to go sing to a member of the staff the complete french song that was presented in the foreword. The member of the staff will have to remember your login and communicate it to the pedago team to get the points for this exercise (it won't block you for the rest). Don't wait! At some point, the staff team will bored won't wish to listen to anyone else.

```
$> ./sing_it!.php
$> ./sing_it!.php "Why this demo ?"
To avoid people noticing this while going over
the subject briefly
$> ./sing_it!.php "Why this song ?"
Because we're all children inside
$> ./sing_it!.php "really ?"
No it's because it's april's fool
$> ./sing_it!.php "really ?"
Yeah we really are all children inside
$>
```

#### Chapter XVII

# Exercise 14: The hesitating agent

Exercise 14	
The hesitating agent	
s.php	
e standard PHP library	
	The hesitating agent

After yesterday's agent (the one that shrank), here is the one that hesitates and needs to make choices. Among the resources of the day, you have a few files of peer-notes. The idea is for you to choose precisely how to use them. Here are a few solutions:

- the "average" option will calculate the average grade without Moulinette.
- the "average\_user" option will calculate the average grade per user ordered by alphabetical order.
- the "moulinette\_variance" will calculate the average grade per user of the difference between a grade received by your peer and by Moulinette.

The grade file will be read on the standard input, and the option is passed as an argument to the program. In cases 2 and 3, if a user has no grade, it's not displayed.

```
$> cat peer_notes_1.csv | ./agent_stats.php ecart_moulinette
adam_e:3.055555555556
bertrand_y:-1.0526315789474
bruce_w:-9.9565217391304
clark_k:0.46428571428571

[.....]
steve_j:10.5
trevor_r:-12.894736842105
$>
```