

Training PHP Symfony - 0

Starting

 $Summary: \ \ Today, \ you \ will \ learn \ about \ the \ basics \ of \ the \ PHP \ Programming \ Language.$

Version: 1.2

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Chapter I Foreword

Some wise quotes from the past:



640K ought to be enough for anybody.



Computers in the future may weigh no more than 1.5 tons.



We will never make a 32-bit operating system.



Spam will be a thing of the past in two years' time.

Chapter II

General rules

- Your project must be realized in a virtual machine.
- Your virtual machine must have all the necessary software to complete your project.
 These softwares must be configured and installed.
- You can choose the operating system to use for your virtual machine.
- You must be able to use your virtual machine from a cluster computer.
- You must use a shared folder between your virtual machine and your host machine.
- During your evaluations you will use this folder to share with your repository.
- Your functions should not quit unexpectedly (segmentation fault, bus error, double free, etc) apart from undefined behaviors. If this happens, your project will be considered non functional and will receive a 0 during the evaluation.
- We encourage you to create test programs for your project even though this work won't have to be submitted and won't be graded. It will give you a chance to easily test your work and your peers' work. You will find those tests especially useful during your defence. Indeed, during defence, you are free to use your tests and/or the tests of the peer you are evaluating.
- Submit your work to your assigned git repository. Only the work in the git repository will be graded. If Deepthought is assigned to grade your work, it will be done after your peer-evaluations. If an error happens in any section of your work during Deepthought's grading, the evaluation will stop.

Chapter III

Day-specific rules

If no other explicit information is displayed, you must assume the following versions of languages :

- PHP Symfony LTS
- HTML 5
- CSS 3

Chapter IV

Exercise 00

	Exercise 00	
/	Exercise 00: Var	
Turn-in directory : $ex00/$		
Files to turn in : var.php		/
Allowed functions:		

Create a file named var.php, containing four variables a, b, c and d. At runtime, your progam initializes those variables and produces the following output:

```
# > php var.php
My first variables:
a contains : 10 and has type : integer
b contains : 10 and has type : string
c contains : ten and has type : string
d contains : 10 and has type : double
# >
```

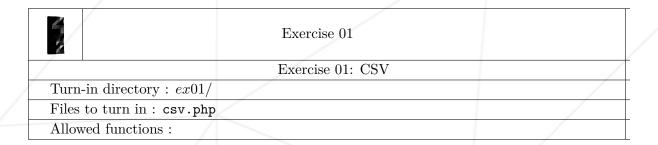
You are not allowed to hard-code your variables' types in this program.



Changing the values (and only the values) of a, b, c or d must change the output in a significant way.

Chapter V

Exercise 01



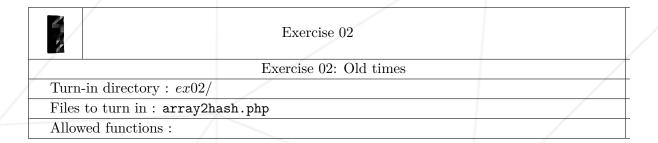
Create a csv.php file that will read a ex01.txt file, available in the same directory (and also available in the resources of this project).

The text file contains values separated by commas. Your program will read the content of this file and display each value on a new line.

```
# > cat ex01.txt
first,second,third,fourth
# > php csv.php
first
second
third
fourth
# >
```

Chapter VI

Exercise 02



Create an array2hash function that takes an array, containing one or more arrays, as argument. These arrays contain a *name* string and an *age* integer each.

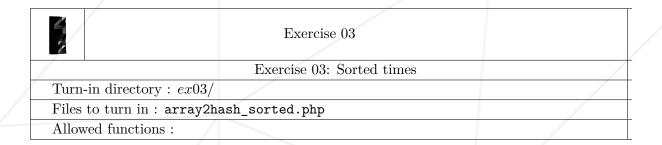
array2hash converts this array of arrays in a hash where keys are ages and values are names.

Example:

```
#> cat test02.php
</php
include('./array2hash.php');
$array = array(array("Pierre","30"), array("Mary","28"));
print_r ( array2hash($array) );
#> php test02.php
Array
(
    [30] => Pierre
    [28] => Mary
)
```

Chapter VII

Exercise 03



Create an array2hash_sorted function that takes an array, containing one or more arrays, as argument. These arrays contain a *name* string and an *age* integer each.

The array2hash_sorted function should convert this array of arrays into an associative array (or hash) where the keys are the names and the values are the corresponding ages. The resulting hash must be sorted by the keys (names) in reverse alphabetical order.

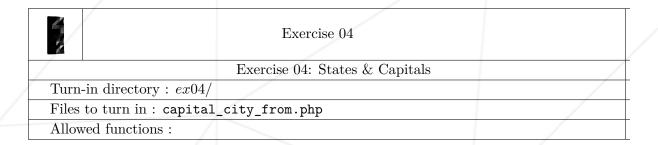
Exemple:

```
#> cat test03.php

<?php
  include('./array2hash_sorted.php');
  $array = array(array("Pierre","30"), array("Mary","28"), array("Nelly", "22"));
  print_r ( array2hash_sorted($array) );
#> php test03.php
Array
(
    [Pierre] => 30
    [Nelly] => 22
    [Mary] => 28
)
```

Chapter VIII

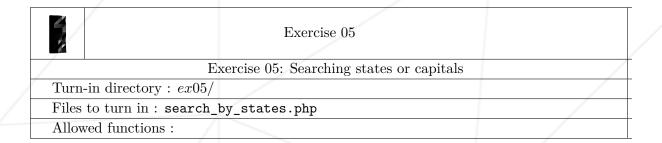
Exercise 04



Using the following arrays, write a capital_city_from function that takes as argument the name of a state and returns its capital city. If the capital city doesn't exist, it returns "Unknown".

Chapter IX

Exercise 05



Using the same arrays as in the previous exercise, create a search_by_states function that takes a string, composed of one of more state names or capital names, as an argument.

The string should use a comma (,) as the separator, and there may be spaces around the separators, at the beginning, or at the end of the string.

This function will return an array of strings formated like this:

```
# > cat test05.php

<?php
  include('./search_by_states.php');
$results = search_by_states("Oregon, trenton, Topeka, NewJersey");
foreach ($results as $result)
{
  echo $result . "\n";
}
# > php test05.php
Salem is the capital of Oregon.
trenton is the capital of New Jersey.
Topeka is neither a capital nor a state.
NewJersey is neither a capital nor a state.
# >
```

Chapter X

Exercise 06

	Exercise 06	
/	Exercise 06: Mendeleiev table	/
Turn-in directory : $ex06/$		
Files to turn in : mendele		
Allowed functions:		

Create a program that opens the ex06.txt file that contains the Mendeleiev table, formated in a specific way. This program will create the file mendeleiev.html that will contain the HTML code of the Mendeleiev table with the data included in ex06.txt, following these rules:

- Each element should be a cell of an HTML table
- The title should be inside an h4 tag
- The attributes should be inside an HTML list
- You should respect the general format of the Mendeleiev table, eg empty cells, new rows etc.

You can find some Mendeleiev tables easily on the Internet.

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Starting

Sample output:

Feel free to customize it however you see fit to make it look fancier ;)

Chapter XI

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 folders and files to ensure they are correct.



The evaluation process will happen on the computer of the evaluated group.