Additional Array Exercises

Objectives

Continue practicing coding exercises using arrays

Introduction

Last week we started chapter 3 from the book and used a deck of cards to learn about arrays. Based on the feedback I have decided to hang out in chapter 3 for another week so students will become more comfortable with the topic.

I am using material directly from W3Resource. The only thing difference is that there are instructions for saving your code for this assignment. Since we are still using arrays, all of your code will still be stored in your **web182\my-code\ch03** folder.

Each exercise is work 16 points.

Assignment

Create a new directory named **array-exercises** and save it in your **web182\my-code\ch03** folder. Your path should look like

```
web182\my-code\ch03\array-exercises
```

Create a file named **index.php** and save it in your **array-exercises** folder. All of the exercises will be written to index.php and you will separate them with an HTML **<hr>** tag just like you did in the previous exercise.

All headers should use the HTML**<h1>** tag.

Colors

Create a header named Colors.

Create the following array

```
$color = array('white', 'green', 'red', 'blue', 'black');
```

Write a script which will display the following string. "The memory of that scene for me is like a frame of film forever frozen at that moment: the red carpet, the green lawn, the white house, the

leaden sky. The new president and his first lady. - Richard M. Nixon" and the words 'red', 'green' and 'white' will come from $color.

Create a horizontal rule **<hr>** to separate this exercise from the next.

Countries and Capitals

Create the following associative array

```
$ceu = array(

    "Italy"=>"Rome",

    "Luxembourg"=>"Luxembourg",

     "Belgium"=> "Brussels",

    "Denmark"=>"Copenhagen",

    "Finland"=>"Helsinki",

    "France" => "Paris",

    "Slovakia"=>"Bratislava",

    "Slovenia"=>"Ljubljana",

    "Germany" => "Berlin",

    "Greece" => "Athens",

    "Ireland"=>"Dublin",

    "Netherlands"=>"Amsterdam",

    "Portugal"=>"Lisbon",

    "Spain"=>"Madrid",

    "Sweden"=>"Stockholm",

    "United Kingdom"=>"London",

    "Cyprus"=>"Nicosia",

    "Lithuania"=>"Vilnius",

    "Czech Republic"=>"Prague",
```

```
    "Estonia"=>"Tallin",

    "Hungary"=>"Budapest",

     "Latvia"=>"Riga",

     "Malta"=>"Valetta",

     "Austria" => "Vienna",

    "Poland"=>"Warsaw"

    );
```

Create a PHP script which displays the capital and country name from the above array $ceu. Sort the list by the capital of the country.

Sample Output

The capital of Netherlands is Amsterdam
The capital of Greece is Athens
The capital of Germany is Berlin

Create a horizontal rule **<hr>** to separate this exercise from the next.

Delete an element

Create a heading named **Delete an element**

Create the following array

```
$x = array(1, 2, 3, 4, 5);
```

Delete an element from the above PHP array. After deleting the element, integer keys must be normalized.

Sample Output :
array(5) { [0]=> int(1) [1]=> int(2) [2]=> int(3) [3]=> int(4) [4]=> int(5) }
array(4) { [0]=> int(1) [1]=> int(2) [2]=> int(3) [3]=> int(5) }

Create a horizontal rule **<hr>** to separate this exercise from the next.

Formatting JSON code

Create a header called **JSON**

Write a PHP script using an associative array which decodes the following JSON string. Sample JSON code :

```
{"Title": "The Cuckoos Calling",
"Author": "Robert Galbraith",
 "Detail": { "Publisher": "Little Brown" }}
```

Expected Output

Title : The Cuckoos Calling
Author : Robert Galbraith
Publisher : Little Brown

Create a horizontal rule **<hr>** to separate this exercise from the next.

Sort by ascending and descending

Create a heading named **Sort by ascending and descending**

Write a PHP script to sort the following associative array :

```
$order =
array("Sophia"=>"31","Jacob"=>"41","William"=>"39","Ramesh"=>"40");
```

- Create a subheading called **Ascending order sort by value**
  - Sort the array by values in ascending order
- Create a subheading called **Ascending order sort by key**
  - Sort the array by its key
- Create a subheading called **Descending order sorting by Value**
  - Sort the array by descending order sorting by Value
- Create a subheading called **Descending order sorting by key**
  - Sort the array by descending order sorting by key

Create a horizontal rule **<hr>** to separate this exercise from the next.

Temperatures - average, high and low

This one get's a little trickier.

Create a heading named **Temperatures**

Write a PHP script to calculate and display average temperature, five lowest and highest temperatures from the following array:

```
$temperatures = array(78, 60, 62, 68, 71, 68, 73, 85, 66, 64, 76, 63, 75,
76, 73, 68, 62, 73, 72, 65, 74, 62, 62, 65, 64, 68, 73, 75, 79, 73);
```

Expected Output :

Average Temperature is : 70.6
List of seven lowest temperatures : 60, 62, 63, 63, 64
List of seven highest temperatures : 76, 78, 79, 81, 85

Create a horizontal rule **<hr>** to separate this exercise from the next.

Merge

Write a PHP program to merge (by index) the following two arrays.
Sample arrays :

```php
$array1 = array(array(77, 87), array(23, 45));
$array2 = array("w3resource", "com");
```

Expected Output :

Use var_dump and the HTML pre tags to format it. You output may look a little different than the one below.

```
Array
(
    [0] => Array
    (
        [0] => w3resource
        [1] => 77
        [2] => 87
    )
[1] => Array
    (
        [0] => com
        [1] => 23
        [2] => 45
    )
)
```

Quick note

There are **many** more exercises from this source and some of them are very challenging. If you have the time and are interested I would suggest reading through the list and trying a few more on your own. This site will also be a good resource for you as a future reference.

Submitting your work

When you are finished

- Zip up the files and save the zipped folder as **03-additional-arrays-yourLastName.zip**
- Submit the zipped file in Moodle
- Upload the folder (not zipped) to your **web182\my-code\ch03\array-exercises** folder on your web host.
- Update your index.php file in ch03 so it displays the array-exercises folder. Remember, the file is named index.php so it will display by default when you go to **http://web182/my-code/ch03/array-exercises**
- Test your work on your website to make sure that it works as expected.