# Homework: PHP Associative Arrays and Strings

This document defines the homework assignments from the [“PHP Basics“ Course @ Software University](https://softuni.bg/courses/php-basics/). Please submit as homework a single zip / rar / 7z archive holding the solutions (source code) of all below described problems.

## Word Mapping

Write a PHP program **WordMapper.php** that takes a text from a command line **with fgets(STDIN)** and prints each word and the number of times it occurs in the text. The search should be **case-insensitive**. The result should be printed as an **HTML table**. **The table should be with border = “2” attribute.**

|  |  |
| --- | --- |
| **Input** | **Output** |
| The quick brows fox.!!! jumped over..// the lazy dog.! |  |
|  |

## Count Real Numbers

Read a **list of real numbers** and **print them in ascending order** along with their **number of occurrences**.

### Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 8 2.5 2.5 8 2.5 | 2.5 -> 3 times  8 -> 2 times | 1.5 5 1.5 3 | 1.5 -> 2 times  3 -> 1 times  5 -> 1 times | -2 0.33 0.33 2 | -2 -> 1 times  0.33 -> 2 times  2 -> 1 times |

### Hints

* Pass through each input number num and increase counts[num] (when num exists in the array) or assign counts[num] = 1 (when num does not exist in the dictionary).
* Pass through all numbers num in the array and print the number num and its count of occurrences counts[num].
* Use **ksort()** to sort the array by keys;

## Coloring Texts

Write a PHP program **TextColorer.php** that takes a text from a command line **with fgets(STDIN)**, colors each character according to its ASCII value and prints the result. If the ASCII value of a character is odd, the character should be printed in **blue**. If it’s even, it should be printed in **red**.

|  |  |
| --- | --- |
| **Input** | **Output** |
| What a wonderful world! | W h a t a w o n d e r f u l w o r l d ! |
|  |

## Navigation Builder

Write a PHP program **NavigationBuilder.php** that takes data from several command lines **with fgets(STDIN)**  and builds 3 sidebars. The input fields are **categories**, **tags** and **months**. The first sidebar should contain a list of the **categories**, the second sidebar – a list of the **tags** and the third should contain the **months**. The entries in the input strings will be separated by a **comma** and **space** "**,** ". Styling the page is *optional*. Semantic HTML is required. **Categories, Tags and Months should be printed with h2 tag.**

|  |  |  |
| --- | --- | --- |
| **Input** | | **Output** |
| categories | Knitting, Cycling, Swimming, Dancing |  |
| tags | person, free time, love, peace, protest |
| months | April, May, June, July |
|  | |

## Text Filter

Write a PHP program **TextFilter.php** that takes a **text** from a command line **with fgets(STDIN)** and a **string of banned words** from a text input field. All words included in the ban list should be replaced with **asterisks** "**\***", equal to the word’s length. The entries in the banlist will be separated by a **comma** and **space** "**,** ".

|  |  |  |
| --- | --- | --- |
| **Input** | | **Output** |
| text | It is not **Linux**, it is GNU/**Linux**. **Linux** is merely the kernel, while GNU adds the functionality. Therefore we owe it to them by calling the OS GNU/**Linux**!  Sincerely, a **Windows** client | It is not \*\*\*\*\*, it is GNU/\*\*\*\*\*. \*\*\*\*\* is merely the kernel, while GNU adds the functionality. Therefore we owe it to them by calling the OS GNU/\*\*\*\*\*!  Sincerely, a \*\*\*\*\*\*\* client |
| banlist | Linux, Windows |

## \*Sentence Extractor

Write a PHP program **SentenceExtractor.php** that takes a **text** from a textarea and a **word** from an input field and prints **all sentences from the text, containing that word**. A sentence is any sequence of words ending with **.**, **!** or **?**.

|  |  |  |
| --- | --- | --- |
| **Input** | | **Output** |
| text | This **is** my cat! And this **is** my dog. We happily live in Paris – the most beautiful city in the world! Isn’t it great? Well it is :) | This is my cat!  And this is my dog. |
| word | Is |

## \*\*URL Replacer

Write a PHP program **URLReplacer.php** that takes a text from a textarea and **replaces all URLs** with the HTML syntax **<a href=** **"…" ></a>** with a special forum-style syntax **[URL=…][/URL]**.

|  |  |  |
| --- | --- | --- |
| **Input** | | **Output** |
| text | <p>Come and visit **<a href="http://softuni.bg">**the Software University**</a>** to master the art of programming. You can always check our **<a href="www.softuni.bg/forum">**forum**</a>** if you have any questions.</p> | <p>Come and visit the **[URL=http://softuni.bg]**Software University**[/URL]** to master the art of programming. You can always check our **[URL=www.softuni.bg/forum]**forum**[/URL]** if you have any questions.</p> |