# Homework: Arrays in PHP

This document defines homework assignments from the [“PHP & MySQL“ Course @ Software University](https://softuni.bg/trainings/fasttracks/details/1033). Please submit as homework a single zip / 7z archive holding the solutions (source code) of all below described problems.

## Print array

Write a script that allocates array of 20 integers and initializes each element by its index multiplied by 5. Print the obtained array on the console.

## Largest Sequence of Equal Strings

Write a script finds in it **the largest sequence of equal elements in array of strings**. If several sequences have the same longest length, print the **leftmost** of them. The input strings are given as a single line, separated by a space. Examples:

|  |  |
| --- | --- |
| **Input** | **Output** |
| hi **yes yes yes** bye | yes yes yes |
| **SoftUni** softUni softuni | SoftUni |
| **1 1** 2 2 3 3 4 4 5 5 | 1 1 |
| a b b xxx **c c c** | c c c |
| **hi hi hi hi hi** | hi hi hi hi hi |
| **hello** | hello |

## Longest Increasing Sequence

Write a script to **find all increasing sequences** inside an array of integers. The integers are given in a array. Print the sequences in the order of their appearance in the input array, each at a single line. Separate the sequence elements by a space. Find also **the longest increasing sequence** and print it at the last line. If several sequences have the same longest length, print the leftmost of them. Examples:

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2 3 4 1 50 **2 3 4 5** | 2 3 4  1 50  2 3 4 5  Longest: 2 3 4 5 |
| **8 9** 9 9 -1 5 2 3 | 8 9  9  9  -1 5  2 3  Longest: 8 9 |
| **1 2 3 4 5 6 7 8 9** | 1 2 3 4 5 6 7 8 9  Longest: 1 2 3 4 5 6 7 8 9 |
| 5 **-1 10 20** 3 4 | 5  -1 10 20  3 4  Longest: -1 10 20 |
| **10** 9 8 7 6 5 4 3 2 1 | 10  9  8  7  6  5  4  3  2  1  Longest: 10 |

Note: the count of the input numbers is not explicitly specified, so you might need to read the sequence as string, then split it by a space and finally parse the obtained tokens to take their integer values.

## Selection Sort

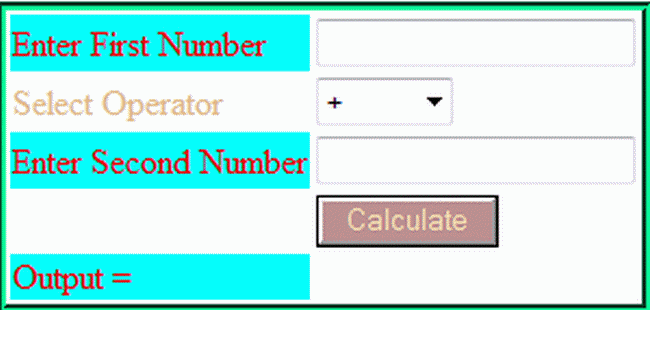
Sorting an array means to arrange its elements in increasing order. Write a script to sort an array. Use the "selection sort" algorithm: Find the smallest element, move it at the first position, find the smallest from the rest, move it at the second position, etc.  
Hint: Use a second array

## Binary Search

Write a script to sort an array. Use the "selection sort" algorithm: Find the smallest element, move it at the first position, find the smallest from the rest, move it at the second position, etc.  
Hint: Use a second array

## \*\*Simple calculator

Write a script that read two input number from user and choose operands. Put appropriate validation of input lines calculate and print result on output line.



## Sequence of Maximal Sum

Write a script that finds the sequence of maximal sum in given array. Examples:

|  |  |
| --- | --- |
| **Array** | **result** |
| 2, 3, -6, -1, **2, -1, 6, 4**, -8, 8 | **2, -1, 6, 4** |