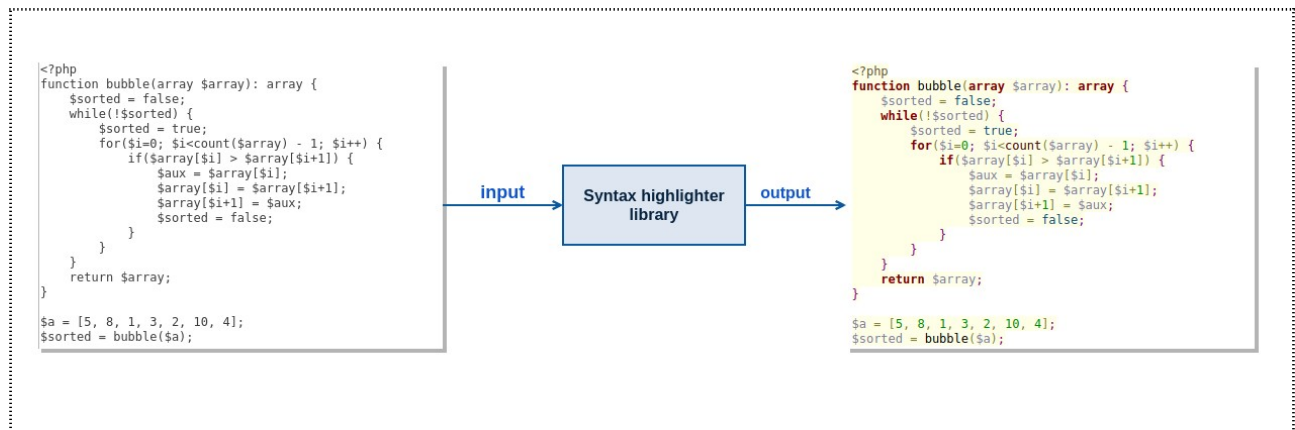


Syntax highlighter library

1. Problem statement

You are required to implement a library that converts a string, containing a PHP block of code, to another string, containing the highlighted PHP block of code.



This library will be implemented in PHP(OOP) and its main purpose will be to add *span* tags that apply CSS classes on different types of “highlightable” elements. In the following figure, there is an example for how CSS classes are applied on the first line of the string given above.

```
<span class='keyword'>function</span> bubble<span class="punctuation">(</span><span class="keyword">array</span>
<span class="variable">$array</span><span class="punctuation"></span><span class="punctuation">:</span><span class="punctuation">array</span>
<span class="keyword">array</span> <span class="bracket">{</span>
```

For now, we assume that the string that enters our library has only code and no other text, thus you do not need to identify where the block of code begins and ends. Your only job is to process the input string and add the tags in the appropriate places such that, by adding a CSS file to the HTML page where this output string is displayed, you will obtain the text in the form displayed in the output of the first figure (or a similar form, the actual styling is not a priority at this point).

2. Specification

The following table provides the list of all elements that need to be highlighted.

Element	Examples
number	0, 12, 690
variable	\$x, \$row1, \$myVariable, \$my_variable2
bracket	{ , }

punctuation	. , ; : ‘ “ [] ()
atom	true, false, null, <i>etc</i> full list: <i>phpatoms.txt</i>
keyword	Abstract, break, case, clone, <i>etc</i> full list: <i>phpkeywords.txt</i>
builtin	func_get_args, strcmp, md5, <i>etc</i> full list: <i>phpbuiltin.txt</i>

3. Project skeleton

Github repository: <https://github.com/calinpristavu/codeHighlightLib>

You need to clone this repository which contains a minimal set of contracts (interfaces) that your library will have to implement.

4. Prerequisites

- Object oriented programming
- Regular expressions and PHP regex functions
- PHP string functions
- PHP array functions

5. Minimal requirements

- OOP design
- use of provided contracts
- highlighted output
 - you can consider that all elements which must be highlighted are separated by whitespace characters in the initial string, at first
 - once the library works, you will have to relax this constraint and try to come up with a more permissive solution
- arguments about how and why your design is S.O.L.I.D.