

Software Development Week 2

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1 Functions

1.1 Questions

1. The names of the function parameters is `$length` and `$width`. A `$` in front of the parameter name (`$length`) denotes that it is a variable.
2. The name of the variable that the function returns is `$perimeterResult`.
3. The line that calls the function is `$perimeterResult = perimeterRectangle(4, 3);`.
4. Due to PHP's loose type system and type-juggling system, both `$length` and `$height` can be of any type. For the function to execute correctly, `$length` and `$height` *should* be of type `int` or `float`.

1.2 Area Function

```
<?php
declare(strict_types = 1);

function rectangle_area(int $width, int $height): int {
    return $width * $height;
}
?>
```

1.3 Test Tables

PerimeterRectangle				rectangle_area			
Length	Width	Expected	Actual	Length	Width	Expected	Actual
4	3	14	14	4	3	12	12
6	3	18	18	12	27	324	324
6	6	24	24	6	6	24	36

2 Strings

2.1 String Functions

Function name	Description
<code>strcasecomp()</code>	A case-insensitive comparison of two strings
<code>strcmp()</code>	A case-sensitive comparison of two strings
<code>strtolower()</code>	Converts an entire string to lowercase
<code>strtoupper()</code>	Converts an entire string to uppercase
<code>strlen()</code>	Returns the amount of characters in the string (length)
<code>ucfirst()</code>	Converts the first character in a string to uppercase
<code>ucwords()</code>	Converts the first character of every word in a string to uppercase

2.2 Application of String Functions

2.2.1 Code

```
<?php
    $test_sentence = "";
    if ($_SERVER["REQUEST_METHOD"] == "POST") {
        $test_sentence = test_input($_POST["test_sentence"]);
    }
    function test_input($data) {
        $data = trim($data);
        $data = stripslashes($data);
        $data = htmlspecialchars($data);
        return $data;
    }
?>
<form method="post" action="<?php echo
↳ htmlspecialchars($_SERVER["PHP_SELF"]);?>">
    Test Sentence:
    <input type="text" name="test_sentence" id="test_sentence">
    <br>
    <button type="submit">Submit</button>
</form>
<?php
    $perimeterResult = perimeterRectangle(4, 3);
    if ($test_sentence) {
        echo ucfirst($test_sentence) . "<br>";
        echo strlen($test_sentence) . "<br>";
        echo strtolower($test_sentence) . "<br>";
    }
?>
```

2.2.2 Output

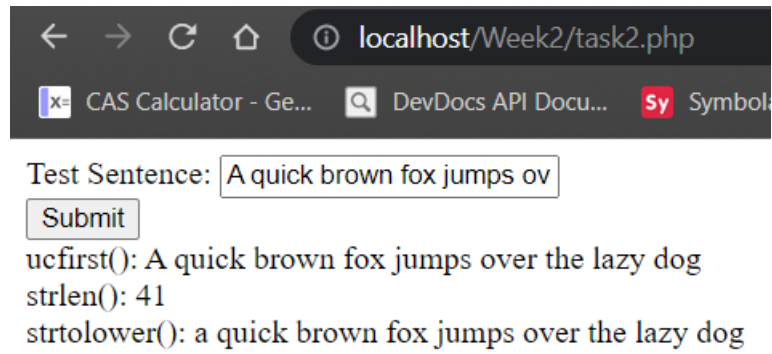


Figure 1: The output of the code shown above