Software Development Week 2

Nathan Le Brun

February 18, 2023

VSV Id: 107027

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

2.2 Application of String Functions

2.2.1 Code

```php
<?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>";
  }
?>
```
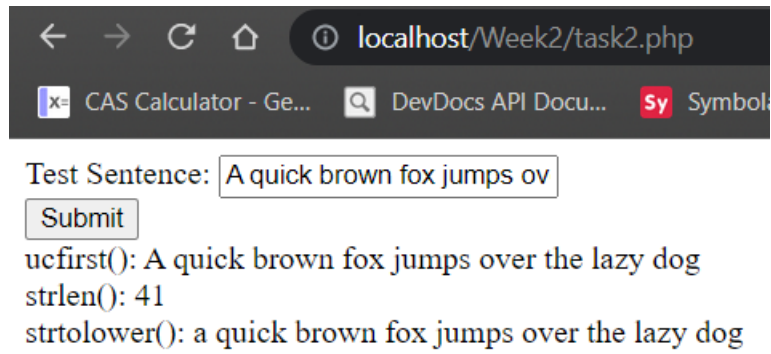
2.2.2 Output

Figure 1: The output of the code shown above