College of Engineering, Construction & Living Sciences
Bachelor of Information Technology
IN607: Introductory Application Development Concepts
Level 6, Credits 15

Activity 01: PHP Basics

Code Review

You must submit all program files via **GitHub Classroom**. Here is the URL to the repository you will use for your code review – https://classroom.github.com/a/fqBug5Kt. Checkout from the **main** branch to the **01-activity** branch by running the command - **git checkout 01-activity**. This branch will be your development branch for this activity. Once you have completed this activity, create a pull request & assign the **GitHub** user **grayson-orr** to a reviewer. **Do not** merge your own pull request.

Part One

Problem 1:

Declare two variables called **name** & **age** with the values John & 55. Use the two variables to display the expected output.

```
<?php
// Write your solution here

// Expected output:
// Hello my name is John & I am 55 years old.
?>
```

Problem 2:

Calculate the **sum** of the given **integers** & display the expected output.

```
<?php
$x = 1957452;
$y = 2975635;

// Write your solution here
```

```
  // Expected output:
  // The sum of 1957452 & 2975635 is 4933087
  ?>
```

Problem 3:

Calculate the **average** of the given **array** of **doubles** & display the expected output.

```
  <?php
  $numbers = array(45.3, 67.5, -45.6, 20.34, -33.0, 45.6)

  // Write your solution here

  // Expected output:
  // Average: 16.69
  ?>
}
```

Problem 4:

Write a function called **fizzBuzz** which accepts an **integer num**. If **num** is a multiple of three, return **Fizz**, if **num** is a multiple of five, return **Buzz** & if **num** is a multiple of three & five, return **FizzBuzz**. Call the **fizzBuzz** function in the for loop to display the expected output.

```
  <?php
  // Write your fizzBuzz function here

  for ($i = 1; $i <= 15; $i+=2) {
    // Write your solution here
  }

  // Expected output:
  // 1
  // Fizz
  // Buzz
  // 7
  // Fizz
  // 11
  // 13
  // FizzBuzz
  ?>
```

Problem 5:

You have been given an **array** of **floats** or **doubles**. Display **only** the odd numbers in the **array**. Sort from lowest to highest.

```
  <?php
  $numbers = array(21, 19, 68, 55, 42, 12)

  // Write your solution here

  // Expected output:
  // 19
  // 21
  // 55
  ?>
```

Part Two

Problem 6:

Write a function called **is_anagram** which accepts two parameters called **string_one** & **string_two**. In the function block, write some code that checks whether or not **string_one** & **string_two** are an anagram. An anagram is a word or phrase that made by arranging the letters of another word or phrase in a different order. If you are still unsure what an anagram is, here is an example:

```
Input: is_anagram("elvis", "lives")
Output: true

Input: is_anagram("cat", "sat")
Output : false
```

Call the **is_anagram** function to display the expected output.

```
<?php
// Write your solution here

// Expected output:
// true
// false
?>
```

Problem 7:

Write a function called **convert** which accepts two parameters called **hours** & **minutes**. In the function block, write some code that converts both **hours** & **minutes** to seconds, then adds them together.

```
<?php
// Write your solution here

convert(1, 3)

// Expected output:
// 3780
?>
```

Problem 8:

Write a function called **factorial** which accepts a single parameter called **num**. In the function block, write some code that returns the factorial of **num**. Assume all inputs are greater than or equal to 0.

```
<?php
// Write your solution here

factorial(3)
factorial(5)

// Expected output:
// 6
// 120
?>
```

Problem 9:

Write a function called **palindrome** which accepts a single parameter called **string**. In the function block, determine whether or not **string** is a palindrome. The function should return a **boolean**.

```
<?php
// Write your solution here

palindrome("A man, a plan, a canal - Panama")
palindrome("Hello, World!")

// Expected output:
// true
// false
?>
```

Problem 10:

Write a function called **is_five_letters** which accepts an **array** of **strings**. In the function block, return all words that are exactly **five** letters.

```
<?php
// Write your solution here

is_three_letters(["car", "bike", "truck", "van"])

// Expected output:
// ["truck", "van"]
?>
```

Problem 11:

Write a function called **remove_one** which removes all occurrences of the number **one** in an **array**.

```
<?php
// Write your solution here

remove_one([1, 1, 1, 1, 1])
remove_one([1, 2, 3, 4, 1])

// Expected output:
// []
// [2, 3, 4]
?>
```

Problem 12:

It is my birthday in a couple months, so you will need to save your pennies to buy me a present. Write a function called **is_my_birthday** that accepts a **DateTime** object & returns **true** if it is the 8th of April, otherwise return **false**.

```
<?php
// Write your solution here

is_my_birthday(new DateTime("1995-04-08"))
is_my_birthday(new DateTime("2015-12-13"))
```

```
// Expected output:
// true
// false
?>
```

Problem 13:

Write a function that accepts an **integer**. If the **integer** is prime, return **true**, otherwise return **false**.

```
<?php
// Write your solution here

is_prime(11)
is_prime(18)

// Expected output:
// true
// false
?>
```

Problem 14:

Write a function that splits a **string** into separate alpha & numeric values. Return the values in an **array**.

```
<?php
// Write your solution here

splitCode("IN607")

// Expected output:
// ["IN", 607]
?>
```