

# (Applications Development and Emerging Technologies)

## TECHNICAL-SUMMATIVE ASSESSMENT

# 2

### PHP ARRAYS AND PRE-DEFINED FUNCTIONS

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<b>Members (if Group):</b>	<b>Name</b>	<b>Role</b>
<b>Section:</b>	AX21	
<b>Professor:</b>	Sir Merlin Marfa	

#### **I. PROGRAM OUTCOME/S (PO) ADDRESSED BY THE LABORATORY EXERCISE**

- Design, implement and evaluate computer-based systems or applications to meet desired needs and requirements.

#### **II. COURSE LEARNING OUTCOME/S (CLO) ADDRESSED BY THE LABORATORY EXERCISE**

- Understand and apply best practices and standards in the development of website.

#### **III. INTENDED LEARNING OUTCOME/S (ILO) OF THE LABORATORY EXERCISE**

At the end of this exercise, students must be able to:

- To know the different approach of using arrays in PHP.
- To use PHP lazy function foreach to iterate through array elements.
- To implement one dimensional and multi-dimensional in the program.
- To know use variables that is globally declared and locally declared.
- To know how to include separate PHP code in the main page for code enhancement.
- To be familiar with the use of common predefined function such as define, include, and require.
- To use different available mathematical function for manipulating numbers.

#### **IV. BACKGROUND INFORMATION**

## PHP Arrays and User Defined Functions

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Array: one dimensional

### Example: Code 1

```
<?php
$fruit[0] = "orange";
$fruit[1] = "apple";
$fruit[2] = "grapes";
$fruit[3] = "banana";
echo "<pre>";
print_r($fruit);
echo "</pre>";
?>
```

### Example: Code 2

```
<?php
$fruit[] = "orange";
$fruit[] = "apple";
$fruit[] = "grapes";
$fruit[] = "banana";
echo "<pre>";
print_r($fruit);
echo "</pre>";
?>
```

### Example: Code 3

```
<?php
$fruit = array("orange", "apple", "grapes", "banana");
echo "<pre>";
print_r($fruit);
echo "</pre>";
?>
```

### Output:

```
Array
(
    [0] => orange
    [1] => apple
    [2] => grapes
    [3] => banana
)
```

## PHP Predefined Functions

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### Using Constant

#### define() functions

used to declare constants. A constant can only be assigned a scalar value, like a string or a number. A constant's value cannot be changed.

#### Syntax:

```
define('NAME', 'value');
```

#### Example:

```
<?php
define('MAX_VALUE', 10);
for($i=5; $i<MAX_VALUE; $i++){
    echo $i." ";
}
//MAX_VALUE = 20; is invalids
?>
```


#### Output:

```
5 6 7 8 9
```

## V. GRADING SYSTEM / RUBRIC (please see separate sheet)

## VI. LABORATORY ACTIVITY

1. **Using ARRAYS**, create a fruit directory that will show the image, name, description and facts about the fruit (create at least 10 fruits sort in alphabetical order). Implement a HTML and CSS code for the structure and design of the webpage. Please see the sample output below.

My Fruits			
Image	Name	Description	Facts
	Banana	Color Yellow	Bananas are a healthful addition to a balanced diet, as they provide a range of vital nutrients and are a good source of fiber.

2. **USING USER DEFINED FUNCTION.** Create a formula for each volume of shapes (Cube, Right Rectangular Prism, Prism or Cylinder, Pyramid or Cone and Sphere) then display the result. Please see the sample below:


Volume of Shapes		
Values	Formula	Answer
$s = 5$	$V=s^3$	125

3. Convert your Student Resume into a web based form, used include() and require() functions to connect all pages

Include and create the following pages:

- Career Objective page
- Personal information page
- Educational Attainment page
- Skills page
- Affiliation page
- Work Experience Page

Please see the sample below:

	Personal information
• Career Objective	
• Educational Attainment page	
• Skills page	
• Affiliation page	
• Work Experience Page	

## VII. QUESTION AND ANSWER

1. What is Array?
  - a. It is a data structure consisting of elements of the same data type.
2. What is function in PHP?
  - a. A function is a block of code that can be executed repeatedly with inputs through arguments and parameters and outputs.
3. Differentiate the one-dimensional array to multi-dimensional array.
  - a. A one-dimensional array is like a single column of elements whereas a multi-dimensional array is akin to many columns of elements.
4. Describe the difference between Global Variable to Local Variable
  - a. Global Variable can be accessed throughout the entire file whereas local variables can only be accessed within a loop or a function.
5. What is the difference between function without parameter and a function with parameter?
  - a. Functions with a parameter have inputs which could affect whatever block of code is within the function. Functions without a parameter would iterate without any external input from within the file or code.

6. What are the different common predefined functions? Describe each and give example.
  - a. Predefined functions are functions that have a use or function that is specific such as a define() function which makes a variable never change its value or max() that outputs the highest value in the elements of an array.
7. Is it useful to use an include or require function on a webpage? Why?
  - a. Yes. This is because a webpage would sometimes needs other files and display its content to the main website. To use the require function would mean that the webpage would not load unless the specified file exists.
8. What is the importance of a function?
  - a. A function makes coding easier by running the same blocks of code repeatedly without needing to code the entirety of the block of code.
9. What is the importance of a string function?
  - a. String functions exist to sanitize, optimize, and classify strings in webpages. Users could input strings and these functions help assure that those inputs would not cause errors or problems in the webpage.

## VIII. REFERENCES

1. <https://www.w3schools.com/css/>
2. <https://www.w3schools.com/html/>
3. [https://www.w3schools.com/php/php\\_variables.asp](https://www.w3schools.com/php/php_variables.asp)
4. [https://www.w3schools.com/php/php\\_arrays.asp](https://www.w3schools.com/php/php_arrays.asp)
5. [https://www.w3schools.com/php/php\\_arrays\\_indexed.asp](https://www.w3schools.com/php/php_arrays_indexed.asp)
6. [https://www.w3schools.com/php/php\\_arrays\\_associative.asp](https://www.w3schools.com/php/php_arrays_associative.asp)
7. [https://www.w3schools.com/php/php\\_arrays\\_multidimensional.asp](https://www.w3schools.com/php/php_arrays_multidimensional.asp)
8. [https://www.w3schools.com/php/php\\_arrays\\_sort.asp](https://www.w3schools.com/php/php_arrays_sort.asp)
9. [https://www.w3schools.com/php/php\\_functions.asp](https://www.w3schools.com/php/php_functions.asp)
10. [https://www.w3schools.com/php/php\\_constants.asp](https://www.w3schools.com/php/php_constants.asp)
11. [https://www.w3schools.com/php/php\\_includes.asp](https://www.w3schools.com/php/php_includes.asp)
12. [https://www.w3schools.com/php/php\\_string.asp](https://www.w3schools.com/php/php_string.asp)

**Note: The following rubrics/metrics will be used to grade students' output.**

<b>Program (100 pts.)</b>	<b>(Excellent)</b>	<b>(Good)</b>	<b>(Fair)</b>	<b>(Poor)</b>
<b>Program execution (20pts)</b>	Program executes correctly with no syntax or runtime errors <b>(18-20pts)</b>	Program executes with less than 3 errors <b>(15-17pts)</b>	Program executes with more than 3 errors <b>(12-14pts)</b>	Program does not execute <b>(10-11pts)</b>
<b>Correct output (20pts)</b>	Program displays correct output with no errors <b>(18-20pts)</b>	Output has minor errors <b>(15-17pts)</b>	Output has multiple errors <b>(12-14pts)</b>	Output is incorrect <b>(10-11pts)</b>
<b>Design of output (10pts)</b>	Program displays more than expected <b>(10pts)</b>	Program displays minimally expected output <b>(8-9pts)</b>	Program does not display the required output <b>(6-7pts)</b>	Output is poorly designed <b>(5pts)</b>
<b>Design of logic (20pts)</b>	Program is logically well designed <b>(18-20pts)</b>	Program has slight logic errors that do no significantly affect the results <b>(15-17pts)</b>	Program has significant logic errors <b>(3-5pts)</b>	Program is incorrect <b>(10-11pts)</b>
<b>Standards (20pts)</b>	Program code is stylistically well designed <b>(18-20pts)</b>	Few inappropriate design choices (i.e. poor variable names, improper indentation) <b>(15-17pts)</b>	Several inappropriate design choices (i.e. poor variable names, improper indentation) <b>(12-14pts)</b>	Program is poorly written <b>(10-11pts)</b>
<b>Delivery (10pts)</b>	The program was delivered on time. <b>(10pts)</b>	The program was delivered a day after the deadline. <b>(8-9pts)</b>	The program was delivered two days after the deadline. <b>(6-7pts)</b>	The program was delivered more than two days after the deadline. <b>(5pts)</b>

## VI.I

```
<html>
<head>
    <title> Fruits Array </title>
</head>
<style>
    body {
        font-family: Arial, Helvetica, sans-serif;
    }
    table, td, th {
        border: 1px solid;
        border-color: black;
        text-align: center;
    }
    h1, h2, h3 {
        margin:auto;
    }
    img {
        max-width: 100px;
        height: 100px;
    }
</style>
<body>
<table>
<?php
    $textFruit = 'names.txt';
    $fruitName = [];

    if (file_exists($textFruit)) {
        $fileHandle = fopen($textFruit, 'r');
        if ($fileHandle) {
            while (($line = fgets($fileHandle)) !== false) {
                $trimmedLine = trim($line);
                $fruitName[] = $trimmedLine;
            }
            fclose($fileHandle);
        } else {
            echo "Error: Unable to open the file.";
        }
    } else {
        echo 'Error: File does not exist.';
    }

    $textdesc = 'description.txt';
    $fruitdesc = [];

    if (file_exists($textdesc)) {
        $fileHandle = fopen($textdesc, 'r');
        if ($fileHandle) {
            while (($line = fgets($fileHandle)) !== false) {
                $trimmedLine = trim($line);
                $fruitdesc[] = $trimmedLine;
            }
            fclose($fileHandle);
        } else {
            echo "Error: Unable to open the file.";
        }
    } else {
        echo 'Error: File does not exist.';
    }

    $images = [
        "https://i.imgur.com/lEMqmxg.png",
        "https://i.imgur.com/icusq0B.jpeg",
```



```

        "https://i.imgur.com/oq26Snt.jpeg",
        "https://i.imgur.com/4oC5Kqc.jpeg",
        "https://i.imgur.com/N2ick8R.png",
        "https://i.imgur.com/j89LCg3.png",
        "https://i.imgur.com/KCHWbAu.jpeg",
        "https://i.imgur.com/IerUIeF.jpeg",
        "https://i.imgur.com/M94V2hn.jpeg",
        "https://i.imgur.com/yhZVcQM.jpeg",
    ];
    $facts = [
        "There are no words that rhyme with orange.",
        "There are over 7,500 varieties of apples grown worldwide.",
        "Ancient bananas or Wild bananas have seeds in them unlike domestic bananas with no seeds
inside them.",
        "Peach Fuzz is a form of protection to animals who eat fruits.",
        "Pineapples are highly acidic. They typically score between a 3 and 4 on the pH scale.",
        "Lemons can be used to make a battery with two metals suspended in an acidic solution.",
        "There have been tomatos that have been to space.",
        "Grapes that are meant for consumption are not the same kind of grapes used for winemaking.",
        "The durian has been banned from public transportation in some country.",
        "A mangle has a larrge flat kernel within itself which is about 4-7cm long."
    ]
?>
<tr>
    <th colspan="4"><h1>MY FRUITS</h1></th>
</tr>
<tr>
    <td><h2>IMAGE</h2></td>
    <td><h2>NAME</h2></td>
    <td><h2>DESCRIPTION</h2></td>
    <td><h2>FACTS</h2></td>
</tr>
<?php
    $totalEntries = min(count($fruitName), count($fruitdesc), 10); // Ensure we do not exceed array
    bounds
    for ($x = 0; $x < $totalEntries; $x++) {
        echo '<tr>';
        echo '<td></td>';
        echo '<td><h3>' . htmlspecialchars($fruitName[$x]) . '</h3></td>';
        echo '<td><p>' . htmlspecialchars($fruitdesc[$x]) . '</p></td>';
        echo '<td>' . htmlspecialchars($facts[$x]) . '</td>';
        echo '</tr>';
    }
?>
</table>
</body>
</html>

```

## VI.II

```
<html>
  <head>
    <title> Function Formulas </title>
  </head>
  <style>
    body {
      font-family: Arial, Helvetica, sans-serif;
    }
    table, td, th
    {
      border: 1px solid;
      border-color: black;
      text-align: center;
      padding: 4px;
    }
  </style>
  <body>
    <table>
      <tr>
        <th colspan="3"> Volume of Shapes </th>
      </tr>
      <tr>
        <td>Values</td>
        <td>Formula</td>
        <td>Answer</td>
      </tr>
      <?php
        function CubeFormula($length)
        {
          return $length*$length*$length;
        }
        $cubeSide = 5;
        $cube = CubeFormula($cubeSide);

        echo "<td> s = $cubeSide </td>";
        echo "<td> V = s<sup>3</sup> </td>";
        echo "<td> $cube </td>";
        ?>
      </tr>
      <tr>
        <?php
          function rightRectangularPrism($l,$w,$h)
          {
            return $l*$w*$h;
          }
          $rrl = 4;
          $rrw = 3;
          $rrh = 2;
          $rightPrism = rightRectangularPrism($rrl,$rrw,$rrh);
          echo "<td> l=$rrl<br>w=$rrw<br>h=$rrh </td>";
          echo "<td> V = lwh </td>";
          echo "<td> $rightPrism </td>";
          ?>
        </tr>
      <tr>
        <?php
          function prism($B,$H)
          {
            return $B*$H;
          }
          $prismBase = 2;
          $prismHeight = 6;
          $prismVolume = prism($prismBase,$prismHeight);
          echo "<td> b=$prismBase h=$prismHeight</td>";
        </tr>
    </table>
  </body>
</html>
```

```

        echo "<td> V = bh </td>";
        echo "<td> $prismVolume";
        ?>
    </tr>
    <tr>
        <?php
        function pyramid($L,$W,$H)
        {
            return ($L*$W*$H)/3;
        }
        $pyramidL = 23;
        $pyramidW = 12;
        $pyramidH = 6;
        $pyramidVolume = pyramid($pyramidL,$pyramidW,$pyramidH);
        echo "<td> l=$pyramidL<br>w=$pyramidW<br>h=$pyramidH </td>";
        echo "<td> V = (lwh)/3 </td>";
        echo "<td> $pyramidVolume </td>";
        ?>
    </tr>
    <tr>

        <?php
        function sphere($R)
        {
            $RCUBE = $R*$R*$R;
            return ((4/3)*3.1415*($RCUBE));
        }
        $sphereR = 6.0;
        $sphereVolume = sphere($sphereR);
        echo "<td> r = $sphereR </td>";
        echo "<td> V = (4/3)πr<sup>3</sup> </td>";
        echo "<td> $sphereVolume </td>";
        ?>
    </tr>
</table>
<?php

    ?>
</body>
</html>

```

VI.III

INDEX

```
<?php
require('header.php');

$page = isset($_GET['page']) ? $_GET['page'] : 'personal_information';
switch ($page) {
    case 'career_objective':
        include('career_objective.php');
        break;
    case 'educational_attainment':
        include('educational_attainment.php');
        break;
    case 'skills':
        include('skills.php');
        break;
    case 'affiliation':
        include('affiliation.php');
        break;
    case 'work_experience':
        include('work_experience.php');
        break;
    case 'personal_information':
    default:
        include('personal_information.php');
        break;
}

require('footer.php');
?>
```

HEADER

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Student Resume</title>
    <style>
        body {
            font-family: Arial, sans-serif;
        }
        .container {
            display: flex;
            border: 1px solid black;
            width: 800px;
            margin: auto;
        }
        .sidebar {
            width: 200px;
            border-right: 1px solid black;
        }
        .content {
            flex: 1;
            padding: 20px;
        }
        .menu {
            list-style-type: none;
            padding: 0;
            margin: 0;
        }
        .menu li {
            border-top: 1px solid black;
            text-align: center;
        }
    </style>
</head>
```

```

        padding: 10px;
    }
    .menu li a {
        text-decoration: none;
        color: black;
        display: block;
    }
    .menu li a:hover {
        background-color: #f0f0f0;
    }
</style>
</head>
<body>
    <div class="container">
        <div class="sidebar">
            
            <ul class="menu">
                <li><a href="index.php?page=personal_information">Personal Information</a></li>
                <li><a href="index.php?page=career_objective">Career Objective</a></li>
                <li><a href="index.php?page=educational_attainment">Educational Attainment</a></li>
                <li><a href="index.php?page=skills">Skills</a></li>
                <li><a href="index.php?page=affiliation">Affiliation</a></li>
                <li><a href="index.php?page=work_experience">Work Experience</a></li>
            </ul>
        </div>
        <div class="content">

```

FOOTER

```

</div>
</div>
</body>
</html>

```

THE FOLLOWING ARE THE OTHER FILES

```

<h2>Affiliation</h2>
<p>Member of the Game Developers Association of the Philippines (GDAP).</p>

<h2>Career Objective</h2>
<p>To leverage my skills in game development and programming to create engaging and innovative video games.</p>
<p>To inspire the next generation of Filipino game developers all over the Philippines. </p>
<p>To put the country's video game development industry in the global big picture. </p>

<h2>Educational Attainment</h2>
<p><b>Far Eastern University Alabang, Filinvest,Muntinlupa</b> - <i>Bachelor of Science in Information Technology with Specialization in Animation and Game Development</i></p>
<p>SEPTEMBER 2022 - JULY 2026</p>

<h2>Personal Information</h2>
<p>Name: Johan Nepomuceno</p>
<p>Address: Pius St. Lot 9, Block 2. The Avignon Place. Buhay na Tubig</p>
<p>City: Imus, Cavite</p>
<p>Phone: 0905 209 3004</p>

```

```

<p>Email: nepo.johan@gmail.com</p>

<h2>Skills</h2>
<p>A broad mindset regarding problem solving and critical thinking that is always considerate for the input of others.</p>
<p>Has a broad knowledge of different contemporary programming languages and software.</p>
<p>Out of the box thinker while fulfilling objectives and expectations.</p>

<h2>Work Experience</h2>
<p><b>Mana Studios, Cavite</b> - <i>Lead Programmer</i></p>
<p>JANUARY 2027 - PRESENT</p>
<ul>
  <li>Developing, testing, maintaining and publishing the different video game products of the studio.</li>
  <li>Is also the only employee of this studio.</li>
</ul>
<p><b>AcadArene, Taguig, BGC</b> - <i>Associate Software Engineer</i></p>
<p>SEPTEMBER 2026 - DECEMBER 2026</p>
<ul>
  <li>Involved in the development, testing and maintenance of necessary software within the company's products.</li>
</ul>
<p><b>Dashing Media Inc.</b> - <i>Content Writer</i></p>
<p>JANUARY 2020 - MARCH 2020</p>
<ul>
  <li>Writing guides about certain video games such as walkthroughs and guides to achieving objectives within the game.</li>
</ul>

```