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Class: IT_B

Module code: ITDB601

Module name: Develop Backend using PHP

Title: Assignment 2

Q1. Explain PHP programing beyond definition?

PHP is the most widely used open source and general purpose server-side scripting language that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages.

PHP it was developed in 1995 by Rasmus Lerdorf.

PHP scripts can only be interpreted on a server that has PHP installed.

The client computers accessing the PHP scripts require a web browser only.

A PHP file contains PHP tags and save with the extension ".php".

Q2. Why do we need to use php programming?

Because PHP can actually do anything related to server-side scripting or more popularly known as the backend of a website.

For example, PHP can receive data from forms, generate dynamic page content, can work with databases, create sessions, send and receive cookies, send emails etc.

Q3. What is the latest php version we have today and list the updated features for the latest 3 release?

PHP 8.2 is the latest PHP version which brings read-only classes, DNF types, null, false, and true types, sensitive parameter redaction support, a new random extension, and several new features along with a few deprecations. It was released on 8.12.2022

Latest 3 release:

PHP 8.1, release date in 2021.

Features:

- Enums
- Fibers
- never return type
- Intersection Types,
- Read only properties and more.

PHP 8.0, on the 25th year of PHP history release date 2020-11-26.

Features:

- Union Types
- JIT
- Constructor Property Promotion
- Match Syntax
- Named Parameters

PHP 7.4, the final release in the PHP 7.x series.

Features:

- typed properties
- underscore numeric separator

Q4. What is different between new release vs stable release of a software product?

New release is the distribution of the final version or the newest version of a software application. A software release may be public or private and generally signifies the unveiling of a new or upgraded version of the application.

A stable release is a version that has been tested as thoroughly as possible and is as reliable as we can make it. It does not have all the new features of a beta release and it does not have the latest fixes for problems.

Q5. What are the main features of php programming?

-**Open source:** Available on the Internet for free.

- Popularity: PHP is at least the most popular open-source server-side

scripting language.

- **Performance:** PHP is typically the fastest server-side script language

- **Database connectivity:** PHP supports wide range of popular databases including MySQL, Oracle, DB2, and ODBC. By using PEAR, you can even write the same code to support all databases supported by PHP.

- **Platform independent:** PHP runs on various OS including Linux, UNIX, Windows and Mac OSX. It also runs with major Web servers including Apache and IIS.

- **Ease of programming:** PHP is very easy for novices and beginners to write practical script from the start. Yet, you can also develop large scale Web applications.

- **International support:** PHP supports multiple languages in the world, together with the Unicode standard.

Q6. With a help of examples explain why php is case sensitive?

Php is case sensitive for variable name but function name is not case sensitive.

For more explanation: If you define variable name in lowercase then you need call it uppercase doesn't work but function will work.

For example1: $name=lea;

Print "$NAME"; //will not work

For example2: function sum(){}

Then calling SUM();// will work

Q7. What and why do we use comments while writing php codes, with a help of example explain different types of php comments?

Comment: is line that is not executed as part of program. Its only purpose is to read by someone who is looking at the code

The main reason we use comment in PHP code is to help programmer to understand and explain the purpose of a particular section of code to other programmers. This way, when a developer is viewing a PHP file for the first time, they can more easily understand the code they're looking at.

Types of comment:

- One -line comment: using double forward slash (//) and pound (#) which are used to commenting on the start of line.
  Example:
  //this code is for forms
  #This code is for tables
- Multi-line comment: start with /* and end with */.

  /* This is an example of a multi-line comment, which can span multiple lines.*/

Q8. Differentiate with real example the following php output functions.

a. **Echo() vs print()**

   Echo() can take more than one parameter when used with or without parentheses and also is faster than print. Does not return value.

   print() print only takes one parameter and also is lower than echo. It return 1 value.

b. **Print() vs printf()**

   Print() is outputs one or more strings.

   Printf() is outputs a formatted string

   For example:

```
Print(“hello , world!”)
Output: hello ,world!

$num=4;
$str=”solar energy”;
Printf("there are %u planets in the %s”,$num,$str”);
Output: there are 5 planets in the solar system.
```

c. **Printf() vs print_r()**

   Printf() function builds a formatted string by inserting values into a template.

   Print_r() function is useful for debugging—it prints the contents of arrays, objects, and other things, in a more-or-less human-readable form.

d. **Print_r vs var_dump()**

   Print_r displays information about a variable in a way that's readable by humans.

   var_dump() function displays structured information about variables/expressions including its type and value.

Q9. List and describe different datatype we have in php by categorizing them in scalar, compound and special datatypes.

Scalar Types: In simple words, a variable is called scalar type if it holds singular value only. There are 4 scalar data types in **PHP**.

1. **Boolean** represents two possible states: TRUE or FALSE.
2. **Integer** is a non-decimal number between -2,147,483,648 and 2,147,483,647.
3. **Float** is a number with a decimal point or a number in exponential form.
4. **String** is a sequence of characters, can be any text inside quotes. You can use single or double quotes.

Compound Types: In contrast to Scalar data types, a variable is called compound if it holds multiples values within. There are 2 compound data types in PHP.

1.array stores multiple values in one single variable.

2.object is an instance of a class.

Classes and objects are the two main aspects of object-oriented programming.

Special Types

There are 2 special data types in PHP.

1.null is a special data type which can have only one value: NULL.

A variable of data type NULL is a variable that has no value assigned to it.

2.resource is not an actual data type. It is the storing of a reference to functions and resources external to PHP.

Q10. What is php variable, list the variable naming rules you have to obey while defining a variable in php?

PHP variables are characters that stores value or information such as text or integers in your code. It is important to know that variables in PHP are usually represented by a dollar sign ($) followed by the name of the variable.

Rules for PHP variables:

- A variable starts with the $ sign, followed by the name of the variable
- A variable name must start with a letter or the underscore character
- A variable name cannot start with a number
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)
- Variable names are case-sensitive ($age and $AGE are two different variables)

Q11. List and explain at least 10 super global variables?

1. **$GLOBALS** is a PHP super global variable which is used to access global variables from anywhere in the PHP script (also from within functions or methods).
2. **$_SERVER** is a PHP super global variable which holds information about headers, paths, and script locations.
3. **$_REQUEST** is a PHP super global variable which is used to collect data after submitting an HTML form.
4. **$_POST** is a PHP super global variable which is used to collect form data after submitting an HTML form with method="post". $_POST is also widely used to pass variables.
5. **$_GET** is a PHP super global variable which is used to collect form data after submitting an HTML form with method="get".
6. **$_FILES** is an associative array containing items uploaded via HTTP POST method. Uploading a file requires HTTP POST method form with enctype attribute set to multipart/form-data.
7. **$_ENV** is another superglobal associative array in PHP. It stores environment variables available to current script.
8. **$_COOKIE** is used to retrieve a cookie value. It typically an associative array that contains a list of all the cookies values sent by the browser in the current request, keyed by cookie name.
9. **$_SESSION** is an associative array that contains all session variables. It is used to set and get session variable values**.**

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