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ASSIGNMENT 2:

LEARNING UNIT 2

Q1. **Explain php programing beyond definition**

PHP is an acronym for "PHP: Hypertext Preprocessor" PHP is a widely-used, open source scripting language. PHP scripts are executed on the server. PHP is free to download and use.

It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1993 and released in 1995.

Q2.**why do we need to use php programming**

- It is easy to install and learn.
- It is open-source and therefore free.
- Not only that, but it is fast and secure.
- It runs on various platforms (Windows, Linux, Unix, etc.).
- PHP can access cookies variable and set cookies.
- It supports many protocols, such as HTTP, POP3, LDAP, IMAP, SNMP, NNTP, and many more.
- It is well-connected with databases and supports a wide range of databases. This feature also makes it suitable for handling forms.
- Many references and learning materials are available for PHP are available over the internet.

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Q3.what is the latest php version we have today and list the update features for the latest 3 release

the latest php version we have today is:

PHP 8.2.

Features in PHP 8.1

- Pure Intersection Types.
- Enums.
- The never Return Type.
- Fibers.
- New readonly Properties.
- Define final Class Constants.
- New fsync() and fdatasync() Functions.
- New array_is_list() Function.

Features in php 8.0

- Named Parameters
- Attributes
- Class constructor property promotion
- JIT
- New `%h` and `%H` `printf` specifiers
- Stack trace as string - Parameter max length is configurable

Features in PHP 8

- named arguments,
- union types,
- attributes, constructor property promotion,
- match expression, nullsafe operator, JIT, and mprovements in the type system,
- error handling, and consistency

Q4. **what is difference between new release vs stable release of a software product**

- **new release of a software:** 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.
- **stable release of a software:** 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 main features of php programming.

- **Simplicity:** PHP is particularly famous for its simplicity.
- **Flexibility** : PHP scripts can run on any device- mobile, tablet, or PC. It is very compatible with various databases.
- **Objective oriented:** PHP supports object-oriented programming features like data encapsulation, inheritance, abstraction, polymorphism, etc.
- **Interpreted language:** PHP is an interpreted language, which means there is no need for compilation. Interpreters run through a program line by line and execute the code.

- **Efficient:** PHP is a versatile, reliable, and efficient programming language. The memory management of PHP is very efficient.
- **Fast Performance:** PHP scrips are usually faster than other scripting languages. Users can load their web pages faster, and they love it.
- **Free and open-source:** PHP is open-source, which means it can be downloaded and used freely.
- **Case-sensitive:** PHP is a partially case-sensitive language
- **Security:** PHP has many pre-defined functions for data encryption. Users can also use third-party applications for security.
- **Platform independence**
- **Error reporting and handling**

Q6. With help of example explain why php is case sensitive

For example, **"Computer" and "computer" are two different words because the "C" is uppercase in the first example and lowercase in the second example**.

This is an example of case sensitive you can not use computer when you declare Computer.

Q7. what and why do we use comments while writing php codes with help of example explain difference types of comments

A **comment in PHP code:** is a line that is not executed as a part of the program.

Its only purpose is to be read by someone who is looking at the code. Comments can be used to: Let others understand your code

we use comments while writing php codes in order to

- To let others know what you're doing
- To remind yourself what you did

There are mainly two types of comments as follows:

- **Line comment.**

  Ex:<?php

  echo "hello";
  #this is a comment
  echo " there";
  ?>
- **Block comment**

  Ex:<?php

  echo "hello";

  /*

  Using this method

  you can create a larger block of text

  and it will all be commented out

```
*/

echo " word";

?>
```

Q8.difference with real example the difference php output function

1. Echo() vs print():
   Echo can be used in expressions as it has no return value while print has a return value of 1.
   echo is marginally faster than print and can take multiple parameters while print can take only one argument.

   Example

```
echo "Don't", " ", "panic", "!"; //This is valid.
print "The ", "answer ", "is ", "42."; //This is invalid.
```

2. Print() vs printf():

   PRINT performs output to the standard output stream (IDL file unit -1), while PRINTF requires a file unit to be explicitly specified.
   Example:

```
<?php
$number = 9;
$str = "Beijing";
printf("There are %u million bicycles in
%s.",$number,$str);
?>
Print example
```

```
<?php
print "Hello world!";
?>
```

3. Printf() vs print_r()

Example:

```
<?php
$number = 9;
$str = "Beijing";
printf("There are %u million bicycles in
%s.",$number,$str);
?>
```

```
<?php
$a = array ('a' => 'apple', 'b' => 'banana',
'c' => array ('x', 'y', 'z'));
print_r ($a);
?>
```

4. Print_r vs var_dump()

Example:

```
<?php
$a = array(1, 2, array("a", "b", "c"));
var_dump($a);

?>
<?php
$a = array ('a' => 'apple', 'b' => 'banana',
'c' => array ('x', 'y', 'z'));
```

```
print_r ($a);
?>
```

Q9.list and describe difference data type we have in phpby categorizing them in scalar,compound and special datatype?

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:** Booleans are like a switch which has only two possible values either 1 (true) or 0 (false).
2. **Integer:** Integers hold only whole numbers including positive and negative numbers, i.e, numbers without fractional part or decimal point.
3. **Float:** Floating point numbers (also known as “floats”, “doubles”, or “real numbers”) are decimal or fractional numbers
4. **String:** In a string, letters or any alphabets, even numbers are included. These are written within double quotes during declaration.

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:** An array is a variable that can hold more than one value at a time.
2. **Object:** An object is a data type which stores not only data but also information on how to process that data.

Special Types

There are 2 special data types in **PHP**.

1. **Resource:** A resource is a special variable, holding a reference to an external resource
2. **NULL:** The special NULL value is used to represent empty variables in PHP. A variable of type NULL is a variable without any data.

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

- 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 _)

Q11.list and explain at least 10 super global variable?

`$GLOBALS:` The `$GLOBALS` superglobal variable is used to access all the global variables in PHP. Basically, it's an associative array which holds all variables that are defined in the global scope.

- `$_SERVER:` The `$_SERVER` superglobal variable holds the web server and execution environment information. Specifically, it's initialized by a web server with HTTP headers, paths, and script locations.
- `$_GET:` When a user submits a form with the GET method, the form data which is sent to a server is available in the `$_GET` variable.
- `$_POST: $_POST` superglobal variable is used to get the form data for the POST method.
- `$_FILES:` When a user submits a form which supports file uploads, the `$_FILES` superglobal variable will be populated with the information of the files that are uploaded.
- `$_COOKIE:` As the name suggests, the `$_COOKIE` superglobal variable is used to read cookies that are available to the current script.
- `$_SEsSION:` A session variable allows you to share information across the different pages of a single site or app—thus it helps maintain state
- `$_REQUEST:` Basically, it's a combination of the `$_GET`, `$_POST`, and `$_COOKIE` superglobal variables
- `$_ENV:` The `$_ENV` superglobal variable is an associative array of variables that are passed to the script by the environment method. It's useful when you want to set

different values for different environments like local, staging, and production.

References:

https://stackoverflow.com/questions/33273941/php-case-sensitivity

https://www.w3schools.com/php/func_string_printf.asp

https://www.php.net/manual/en/function.var-dump.php

https://www.php.net/releases/8.0/en.php

https://php.watch/versions/8.0

https://www.javatpoint.com/php-comments