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4. INTRODUCTION TO PHP

CHOOSE THE CORRECT ANSWER

1. What does php stand for? Hypertext preprocessor
2. Originally PHP stood for “personal home page”.
3. What does php files have a default file extension? .php
4. A php script should start with __ and end with ____<<? php ?>
5. Which of the following must be installed on your computer so as to run php scripts? Apache
6. We can use ___ to comment a single line? Both (ii) and (iii)
7. Which of the following php statements/statements will store 41 in variable num? all of the above
8. What will be the output of the following php world on the screen 1+2
9. Which of the following will output hello world on the screen. echo(”hello world”);
10. Which statement will output $x on the screen? echo “\$x” ;
11. Which of the below symbols is a newline character?\n or \r

Short Answers

1. What are the common usages of PHP?
   a. Php can be used on all major OS.
   b. Php support for web server like Apache, IIS and others

2. What is web server?
   A web server is a software that uses HTTP to serve the files that form web pages to users.

3. What are the types scripting language?
   Web scripting language are classified into two types,
   Client side scripting language
   Server side scripting language
4. Difference between client and server?

<table>
<thead>
<tr>
<th>Client</th>
<th>Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>The client-side environment used to run scripts is usually a browser.</td>
<td>The server-side environment that runs a scripting language is a web server.</td>
</tr>
<tr>
<td>Does not need server interaction</td>
<td>Requires server interaction.</td>
</tr>
<tr>
<td>Example: HTML, CSS, JavaScript etc.</td>
<td>Example PHP, ASP.net, Ruby on Rails, Python, etc.</td>
</tr>
</tbody>
</table>

5. Give few examples of web browser?
   a. Google chrome
   b. Opera
   c. Mozilla Firefox
   d. Internet explorer

6. What is url?
   url is the address of a specific web page or file on the internet
   url have four parts
   url is uniform resource locator

7. Is PHP a case sensitive language?
   Yes, php is a case sensitive language.

8. How to declare variables in php?
   - Variable name must always begin with a $ symbol.
   - Variable name can never start with a number.
   - Variable names are case-sensitive.

   - Client-server architecture is a network architecture in which each computer on the network is either a client or a server.
   - Servers are powerful computers to managing disk drives.
   - Clients are PC’s on which users run applications.
10. Define web server.

A Web server is software that uses HTTP to serve the files that form web pages to users.

Explain in Brief Answer

1. Write the features of server side scripting language.
   - Server-side scripting offers greater protection for user privacy.
   - It reduces the loading time for web pages.
   - Run dynamic pages on these browsers.

2. Write the purpose of web servers?
   - A web server is server software that can satisfy World Wide Web client request.
   - It contain one or more websites
   - It processes oncoming network requests over HTTP and several other related protocols.

3. Differentiate Server side and Client Side Scripting language.
   
   **Server- side scripting**
   a. Works in the back end which could not be visible at the client end.
   b. Requires server interaction.
   c. Php, asp.net, python.
   d. Provide dynamic websites.
   e. Relatively secure

   **Client-side scripting**
   a. Works at the front end and visible at the users.
   b. Does not need interaction with the server.
   c. HTML, CSS, java scripts,
   d. Can reduce the load to the server.
   e. Insecure
4. In how many ways you can embed PHP code in an HTML page?
   There are two ways to use HTML on your PHP page.
   1. Put the HTML outside of your PHP tags.
   2. Use HTML with PHP is by using PRINT or ECHO.

5. Write short notes on PHP operator.
   Operator is a symbol which is used to perform mathematical and logical
   operations in the programming languages. Different types of operator in PHP
   are:
   o Arithmetic operators
   o Assignment operators
   o Comparison operators
   o Increment/Decrement operators
   o Logical operators and
   o String operators

Explain in Detail

1. Explain client side server scripting language.
   Client – side Environment
   ➢ To run scripts is usually a browser
   ➢ The processing takes place on the end users
   ➢ Over the internet the source code is transferred the web server to the
     user’s computer
   ➢ No security there in user computer
   ➢ Pops up used the user when script is attempting to run

   Server-side Environment
   ➢ Repository of data and programs and is shared by clients
   ➢ That runs scripting language is a web server.
   ➢ It generate dynamic HTML pages.
   ➢ Used to store data on the server.
   ➢ Its highly customize the response based on the user’s
2. **Discuss in detail about Website development activities.**

Web development concept the process of development also includes web content generation, web page designing, and website security

**Web development life cycle**

a. Information gathering
b. Planning
c. Design
d. Content writing
e. Coding
f. Test the create website
g. Maintenance

3. **Explain the process of Webserver installation.**

The following are the steps to install and configure Apache Httpd webserver and PHP module in windows server machine.

**Step 1:**
Go to Apache foundation Website and download the Httpd Webserver Software. [https://httpd.apache.org/download.cgi](https://httpd.apache.org/download.cgi)

**Step2:**
After downloading .MSI file from Apache foundation Website, user launches the .MSI file and clicks next and next button to finish the installation on server machine.

The software takes default port number 130 or 130130. Once the user finished, the Web server software is installed and configured on server hardware machine as a service.

**Step 3:**
To test the installation of Apache Httpd Webserver, enter the following URL from your Web browser which is installed in your client machine.

- [https://localhost:130/](https://localhost:130/)
- [https://localhost:130130](https://localhost:130130)

The output page that says “Its works”

**Step 4:**
Administrator user can start, stop and restart the Web server service at any time via windows Control panel.

Once the services stops, the client machine will not receive the response message from server machine.
Step 5:
Webserver’s configuration setting file “httpd.conf” is located in the `conf` directory under the apache installation directory.
Edit this file and enable the PHP module to run PHP scripting language.

4. **Discuss in detail about PHP data types.**
   PHP scripting language supports 13 primitive data types. Data Types plays important role in all programing languages to classify the data according to the logics. PHP supports the following data types.

<table>
<thead>
<tr>
<th>Data type</th>
<th>Explanation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>String is a collection of characters within the double or single quotes</td>
<td>$x=&quot;Computer Application!&quot;;</td>
</tr>
<tr>
<td>Integer</td>
<td>Integer is a data type which contains non decimal numbers.</td>
<td>$x = 59135;</td>
</tr>
<tr>
<td>Float</td>
<td>Float is a data type which contains decimal numbers.</td>
<td>$x = 19.15;</td>
</tr>
<tr>
<td>Boolean</td>
<td>Boolean is a data type which denotes the possible two states, TRUE or FALSE</td>
<td>$x = true; $y = false;</td>
</tr>
<tr>
<td>Array</td>
<td>Array is a data type which has multiple values in single variable.</td>
<td>$cars=array(&quot;Computer&quot;, &quot;Laptop&quot;, &quot;Mobile&quot;);</td>
</tr>
<tr>
<td>Object</td>
<td>It is a data type which contains information about data and function inside the class.</td>
<td>$school_obj = new School ();</td>
</tr>
<tr>
<td>NULL</td>
<td>Null is a special data type which contains a single value: NULL</td>
<td>$x = null;</td>
</tr>
<tr>
<td>Resource</td>
<td>Resource is a specific variable, it has a reference to an external resource.</td>
<td>$handle = fopen(&quot;note.txt&quot;, &quot;r&quot;); var_dump($handle);</td>
</tr>
</tbody>
</table>

5. **Explain operators in PHP with example.**
   Operator is a symbol which is used to perform mathematical and logical operations in the programing languages. Different types of operator in PHP are:

1. Arithmetic operators,
The arithmetic operators in PHP perform general arithmetical operations, such as addition, subtraction, multiplication and division etc.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Operator Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Addition</td>
<td>This operator performs the process of adding numbers</td>
</tr>
<tr>
<td>-</td>
<td>Subtraction</td>
<td>This operator performs the process of subtracting numbers</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication</td>
<td>This operator performs the process of multiplying numbers</td>
</tr>
<tr>
<td>/</td>
<td>Division</td>
<td>This operator performs the process of dividing numbers</td>
</tr>
<tr>
<td>%</td>
<td>Modulus</td>
<td>This operator performs the process of finding remainder in division operation of two numbers</td>
</tr>
</tbody>
</table>

2. Assignment operators,
Assignment operators are performed with numeric values to store a value to a variable. The default assignment operator is “=” . This operator sets the left side operant value of expression to right side variable. Refer Table 4.2.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Similar to</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>x = y</td>
<td>x = y</td>
<td>This operator sets the left side operant value of expression to right side variable</td>
</tr>
<tr>
<td>x += y</td>
<td>x = x+ y</td>
<td>Addition</td>
</tr>
<tr>
<td>x- = y</td>
<td>x = x - y</td>
<td>Subtraction</td>
</tr>
<tr>
<td>x* = y</td>
<td>x = x*y</td>
<td>Multiplication</td>
</tr>
<tr>
<td>x/ = y</td>
<td>x = x/y</td>
<td>Division</td>
</tr>
<tr>
<td>x % = y</td>
<td>x = x % y</td>
<td>Modulus</td>
</tr>
</tbody>
</table>

3. Comparison operators,
Comparison operators perform an action to compare two values. These values may contain integer or string data types (Number or Strings). Refer Table 4.3.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Operator Name</th>
<th>Symbol</th>
<th>Operator Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>==</td>
<td>Equal</td>
<td>&gt;</td>
<td>Greater than</td>
</tr>
<tr>
<td>===</td>
<td>Identical</td>
<td>&lt;</td>
<td>less than</td>
</tr>
<tr>
<td>Operator</td>
<td>Name</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>!=</td>
<td>Not equal</td>
<td>Greater than or equal to</td>
<td></td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>Not equal</td>
<td>Less than or equal to</td>
<td></td>
</tr>
<tr>
<td>!==</td>
<td>Not identical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Increment/Decrement operators,
   Increment and decrement operators are used to perform the task of increasing or decreasing variable’s value. This operator is mostly used during iterations in the program logics. Refer Table 4.4.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>++$x</td>
<td>Pre-increment</td>
<td>Increment $x value by one, then returns $x</td>
</tr>
<tr>
<td>$x++</td>
<td>Post-increment</td>
<td>Returns $x, then increments $x by one</td>
</tr>
<tr>
<td>--$x</td>
<td>Pre-decrement</td>
<td>Decrements $x by one, then returns $x</td>
</tr>
<tr>
<td>$x--</td>
<td>Post-decrement</td>
<td>Returns $x, then decrements $x by one</td>
</tr>
</tbody>
</table>

5. Logical operators, and
   Logical Operators are used to combine conditional statements. Refer Table 4.5.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Operator Name</th>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp;&amp;</td>
<td>And</td>
<td>$x &amp;&amp; $y</td>
<td>True if both $x and $y are true</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Or</td>
</tr>
<tr>
<td>!</td>
<td>Not</td>
<td>!$x</td>
<td>True if $x is not true</td>
</tr>
<tr>
<td>xor</td>
<td>Xor</td>
<td>$x xor $y</td>
<td>True if either $x or $y is true, but not both</td>
</tr>
</tbody>
</table>

   Two operators are used to perform string related operations such as Concatenation and Concatenation assignment (Appends). Refer Table 4.6.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Name</th>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>.</td>
<td>Concatenation</td>
<td>$text1 . $ text2</td>
<td>Concatenation of $txt1 and $txt2</td>
</tr>
<tr>
<td>.=</td>
<td>Concatenation</td>
<td>$text1 .= $ text2</td>
<td>Appends $txt2 to $txt1</td>
</tr>
</tbody>
</table>
6. **Explain different client server architecture model.**

Client server architecture shown above in Figure 4.2 is classified into three types, as follows

- **Single Tier Architecture**
  - This architecture is used for the server, accessed by client.
  - The client application runs inside the server machine itself.
  - This acts as a single layer interaction

- **Two Tier Architecture**
  - This architecture is used for the server, accessed by client as two layer interactions.
  - Such as Client layer in tire one and server layer in tire Two.

- **N/Multi/Three tier architecture**
  - This architecture is used for the server, accessed by client through more than one layer interaction.
  - The programmer could decide the count of business logic layers according to the software requirement that is the reason this model is also known as Multi Three Tire Architecture

7. **Explain different types of PHP syntax.**

Three types of PHP Syntax are available. They are as follows

1. **Default Syntax**
   - The default Syntax begins with “<?php” and closes with “?>”.

   ![Default Syntax Diagram]

2. **Short open Tags**
   - The Short open Tags begins with “<?” and closes with “?>”. But admin user has to enable Short style tags settings in php.ini file on the server.

   ![Short open Tags Diagram]

3. **HTML Script embed Tags**
HTML Script embed Tags looks just like HTML scripts tags.

```php
<script language="php">
    echo "This is HTML script tags.";
</script>
```

8. Explain important features of PHP.

- PHP is an Open Source
- PHP is a Case Sensitive
- PHP is a Simplicity Program language
- PHP is an Efficiency Program language
- PHP is a Platform Independent Program language
- PHP is a Security Program language
- PHP is a Flexibility Program language
- PHP is a Real-Time Access Monitoring Program language