4. INTRODUCTION TO PHP

Choose the Correct Answers

1. What does PHP stand for?
   a) Personal Home Page  
   b) Hypertext Preprocessor  
   c) Pretext Hypertext Processor  
   d) Pre-processor Home Page

2. What does PHP files have a default file extension?
   a) .html  
   b) .xml  
   c) .php  
   d) .php

3. A PHP script should start with ___ and end with ___:
   a) <php>  
   b) < ? php ?>  
   c) < ? >  
   d) < ?php ? >

4. Which of the following must be installed on your computer so as to run PHP script?
   a) Adobe  
   b) windows  
   c) Apache  
   d) IIS

5. We can use ___ to comment a single line?
   i) /* */  
   ii) //  
   iii) #  
   a) Only (i)  
   b) (i), (ii) and (iv)  
   c) (ii), (iii) and (iv)  
   d) Both (ii) and (iv)

6. Which of the following PHP statement/statements will store 41 in variable num?
   (i) $x = 41; (ii) $x = ‘41’; (iii) $x = “41”;
   a) Both (i) and (ii)  
   b) All of the mentioned.  
   c) Only (iii)  
   d) Only (i)

7. What will be the output of the following PHP code?

   < ?php
   $num = 1;
   $num1 = 2;
   print $num . “+”. $num1 ;
   ?>
   a) 3  
   b) 1+2  
   c) 1.+2  
   d) Error

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8. Which of the following PHP statements will output Hello World on the
screen?
   a) echo (“Hello World”);       b) print (“Hello World”);
c) printf (“Hello World”);       d) sprintf (“Hello World”);

9. Which statement will output $x on the screen?
   a) echo “\$x”;
   b) echo “\$\$x”;
c) echo “/\$x”;
   d) echo “\$x;

10. Which of the below symbols is a newline character?
    a) \r  b) \n  c) /n d) /r

SHORT ANSWERS

1. What are the common usages of PHP?
   ➢ PHP can be used on all major operating systems.
   ➢ PHP has also support for most of the web servers today. This includes
     Apache, IIS, and many others.

2. What is Web server?
   A Web server is Software that uses HTTP (Hypertext Transfer Protocol) to serve
   the files that form Web pages to users.

3. What are the types scripting language?
   Web scripting languages are classified into two types,
   ➢ Client side scripting language
   ➢ Server side scripting language

4. Difference between Client and Server?
### Client vs 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?**

- Google Chrome
- Mozilla Firefox
- Opera
- Safari
- Internet Explorer
- UC Browser
- Netscape Navigator etc.

6. **What is URL?**

- URL is the abbreviation of Uniform Resource Locator
- It is the address of a specific Web page or file on the Internet.
- URL is made up four parts—protocols, hostname, folder name and file name.
- Example: http://www.google.com/

7. **Is PHP a case sensitive language?**

Yes, PHP is a case sensitive language.

**Example:**
If you defined variable in lowercase, then you need to use it in lowercase everywhere in program.
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 or process on the network is either a client or a server.
- Servers are powerful computers or processes dedicated to managing disk drives, printers, or network traffic.
- Clients are PCs or workstations on which users run applications.

10. Define Web server.

A Web server is Software that uses HTTP (Hypertext Transfer Protocol) 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 often reduces the loading time for web pages. Some browsers don’t fully support JavaScript, so server-side scripting is essential to run dynamic pages on these browsers.

2. **Write is the purpose of Web servers?**
A web server (or Web server) is server software, or hardware dedicated to running said software, that can satisfy World Wide Web client requests. A web server can, in general, contain one or more websites. A web server processes incoming network requests over HTTP and several other related protocols.

3. **Differentiate Server side and Client Side Scripting language.**
### Server-side scripting vs. Client-side scripting

<table>
<thead>
<tr>
<th>Server-side scripting</th>
<th>Client-side scripting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works in the back end which could not be visible at the client end.</td>
<td>Works at the front end and script are visible among the users.</td>
</tr>
<tr>
<td>Requires server interaction.</td>
<td>Does not need interaction with the server.</td>
</tr>
<tr>
<td>PHP, ASP.net, Ruby on Rails, ColdFusion, Python, etcetera.</td>
<td>HTML, CSS, JavaScript, etc.</td>
</tr>
<tr>
<td>Could effectively customize the web pages and provide dynamic websites.</td>
<td>Can reduce the load to the server.</td>
</tr>
<tr>
<td>Relatively secure.</td>
<td>Insecure</td>
</tr>
</tbody>
</table>

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.

The first way is to put the HTML outside of your PHP tags. You can even put it in the middle if you close and reopen the tags.

The second way to use HTML with PHP is by using PRINT or ECHO. By using this method you can include the HTML inside of the PHP tags.

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:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators and
- String operators

### PART IV

**Explain in Detail**

1. **Explain client side and server side scripting language.**

Web scripting languages are classified into two types, client side and server side scripting language.
Client-side Environment
- The client-side environment used to run scripts is usually a browser.
- The processing takes place on the end users computer.
- The source code is transferred from the web server to the user’s computer over the internet and run directly in the browser.
- The scripting language needs to be enabled on the client computer. Sometimes if a user is conscious of security risks they may switch the scripting facility off.
- When this is the case a message usually pops up to alert the user when script is attempting to run.

Server-side Environment
- A server is a computer system that serves as a central repository of data and programs and is shared by clients.
- The server-side environment that runs a scripting language is a web server.
- A user’s request is fulfilled by running a script directly on the web server to generate dynamic HTML pages.
- This HTML is then sent to the client browser.
- It is usually used to provide interactive web sites that interface to databases or other data stores on the server.
- This is different from client-side scripting where scripts are run by the viewing web browser, usually in JavaScript.
- The primary advantage to server-side scripting is the ability to highly customize the response based on the user’s requirements, access rights, or queries into data stores.

2. Discuss in detail about Website development activities.
Web development concept describes in detail about Website development and hosting through network (Internet/Intranet).
The process of development also includes Web content generation, Web page designing, Website security and so on.

Website Development Life Cycle
1. Information Gathering
   - Set goals for the website
   - Define website’s target audience

2. Planning

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Create a sitemap sketch
Create a wireframe/mockup
Select technology stack

3. Design
Create colorful page layouts
Review the layouts
Get client’s feedback on the layouts
Change the layout when required

4. Content writing and assembly
Create new content
Get content ready for migration

5. Coding
Build and deploy website
Add special features and website
Testing, Review and Launch

6. Test the create website
Upload the website to server
Final test and launch

7. Maintenance and Regular updating
Add report system
Fix bugs
Keep website up-to-day

3. Explain the process of Webserver installation.
   The following are the steps to install and configure Apache Httpd Web server and PHP module in windows server machine.

   Step 1:
   Go to Apache foundation Website and download the Httpd Web server Software.
   https://httpd.apache.org/download.cgi

   Step 2:
   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/ or 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 programming languages to classify the data according to the logics.

PHP supports the following data types.

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

5. Explain operators in PHP with example.

Operator is a symbol which is used to perform mathematical and logical operations in the programming languages.
Different types of operator in PHP are:

- Arithmetic operators,
- Assignment operators,
- Comparison operators,
- Increment/Decrement operators,
- Logical operators, and
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>

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 operand value of expression to right side variable.

<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 operand 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>
Comparison operators:

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

<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>!=</td>
<td>Not equal</td>
<td>&gt;=</td>
<td>Greater than or equal to</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>Not equal</td>
<td>&lt;=</td>
<td>Less than or equal to</td>
</tr>
<tr>
<td>!==</td>
<td>Not identical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Increment and 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.

<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>

Logical Operators:

Logical Operators are used to combine conditional statements.

<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>
</tbody>
</table>
xor $x \text{ xor } y$ True if either $x$ or $y$ is true, but not both

**String Operators:**

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

<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>$text1 . \text{ } text2$</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>