**Core PHP**

• Discuss the structure of a PHP script and how to embed PHP in HTML.

* A PHP script is executed on the server, and the plain HTML result is sent back to the browser.
* A PHP script can be placed anywhere in the document.
* A PHP script starts with <?php and ends with ?>:
* The default file extension for PHP files is ".php".
* A PHP file normally contains HTML tags, and some PHP scripting code.

• What are the rules for naming variables in PHP?

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)

• Explain the concept of variables in PHP and their scope

Variables are "containers" for storing information.

In PHP, variables can be declared anywhere in the script.

The scope of a variable is the part of the script where the variable can be referenced/used.

PHP has three different variable scopes:

* local
* global
* static

• What are super global variables in PHP? List at least five super global arrays and their use.

Some predefined variables in PHP are "superglobals", which means that they are always accessible, regardless of scope - and you can access them from any function, class or file without having to do anything special.

1. $\_SERVER:

This array contains information about the server environment, such as headers, paths, and script locations. Examples include $\_SERVER['SERVER\_ADDR'] (the IP address of the server), $\_SERVER['HTTP\_HOST'] (the host address), and $\_SERVER['REQUEST\_URI'] (the URI of the current page).

2. $\_GET:

This array contains variables passed to the script via the URL parameters (query string). It's often used to retrieve data submitted through a form using the GET method or to pass parameters in a URL.

3. $\_POST:

This array contains variables passed to the script via the HTTP POST method. It's commonly used to retrieve data submitted through an HTML form, especially when submitting sensitive information, as the data is not visible in the URL.

4. $\_FILES:

This array contains information about files uploaded to the script via the HTTP POST method. It provides details like the file name, type, size, and temporary location on the server.

5. $\_COOKIE:

This array contains variables passed to the script via HTTP cookies. Cookies are small pieces of data that the server stores on the user's computer, allowing the server to track user information or preferences.

• Explain how conditional statements work in PHP.

Very often when you write code, you want to perform different actions for different conditions. You can use conditional statements in your code to do this.

In PHP we have the following conditional statements:

if statement - executes some code if one condition is true

if...else statement - executes some code if a condition is true and another code if that condition is false

if...elseif...else statement - executes different codes for more than two conditions

switch statement - selects one of many blocks of code to be executed

• Discuss the difference between for loop, foreach loop, and do-while loop in PHP

Often when you write code, you want the same block of code to run over and over again a certain number of times. So, instead of adding several almost equal code-lines in a script, we can use loops.

Loops are used to execute the same block of code again and again, as long as a certain condition is true.

In PHP, we have the following loop types:

while - loops through a block of code as long as the specified condition is true

do...while - loops through a block of code once, and then repeats the loop as long as the specified condition is true

for - loops through a block of code a specified number of times

foreach - loops through a block of code for each element in an array

• Define arrays in PHP. What are the different types of arrays?

What is an Array?

An array is a special variable that can hold many values under a single name, and you can access the values by referring to an index number or name.

PHP Array Types

In PHP, there are three types of arrays:

Indexed arrays - Arrays with a numeric index

Associative arrays - Arrays with named keys

Multidimensional arrays - Arrays containing one or more arrays

• What is the header function in PHP and how is it used?

**Definition and Usage**

The header() function sends a raw HTTP header to a client.

It is important to notice that the header() function must be called before any actual output is sent!

**Syntax**

header(header, replace, http\_response\_code)

• Explain the difference between include and require in PHP.

The include and require statements are identical, except upon failure:

require will produce a fatal error (E\_COMPILE\_ERROR) and stop the script

include will only produce a warning (E\_WARNING) and the script will continue

So, if you want the execution to go on and show users the output, even if the include file is missing, use the include statement. Otherwise, in case of FrameWork, CMS, or a complex PHP application coding, always use the require statement to include a key file to the flow of execution. This will help avoid compromising your application's security and integrity, just in-case one key file is accidentally missing.

Including files saves a lot of work. This means that you can create a standard header, footer, or menu file for all your web pages. Then, when the header needs to be updated, you can only update the header include file.

• Explain what PHP expressions are and give examples of arithmetic and logical operations.

In PHP, an expression is any valid combination of values, variables, operators, and function calls that can be evaluated to produce a single value. Essentially, anything that has a value when evaluated is an expression.

PHP Arithmetic Operators

The PHP arithmetic operators are used with numeric values to perform common arithmetical operations, such as addition, subtraction, multiplication, Division, Modulus, Exponentiation.

PHP Logical Operators

The PHP logical operators are used to combine conditional statements.

Like: and, or, xor, !, &&, ||

PHP Integration

• How can PHP be used to dynamically generate HTML content? Provide examples.

php" and the closing tag "?>". Any code placed between these tags will be interpreted by the PHP engine. In the above example, the PHP code `echo "Welcome to our website!";` will be executed by the server, and the resulting string will be inserted into the HTML output.

Now, let's modify our HTML template to include a dynamic greeting message. We can use the PHP echo statement to output the greeting message. For example:

html

<!DOCTYPE html>

<html>

<head>

<title>Dynamic Greeting</title>

</head>

<body>

<h1><?php echo "Welcome to our website!"; ?></h1>

</body>

</html>

In the above example, the PHP code `echo "Welcome to our website!";` will be executed by the server, and the resulting string will be inserted into the HTML output. This means that every time the page is loaded, the greeting message will be displayed.

• Explain how to include CSS files in a PHP-generated HTML page.

By Php Code -

This is by far new and powerful way to import css in a document.But the only condition is you have to surround the php code with style element.

<?php include 'header.php'; ?><style><?php include 'CSS/main.css'; ?></style>

• What are the advantages of using PHP to manage HTML forms?

Using PHP instead of HTML allows you to manage user input and dynamically process the data. While HTML only supports static content presentation, PHP helps you create interactive forms, conduct server-side validations, and process user-submitted data.