CS355: Web Technologies Lab
Lab 5: php

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1. PHP

PHP (Hypertext Preprocessor) is a server-side scripting language primarily used for web development. Originally designed for creating dynamic web pages, PHP now powers a significant portion of the web, from simple blogs to complex e-commerce platforms. It's known for its simplicity, flexibility, and compatibility with various databases, servers, and operating systems. Key features include its ability to embed within HTML, support for procedural and object-oriented programming paradigms, and a vast ecosystem of libraries and frameworks. Its community-driven development and open-source nature have contributed to its widespread adoption and continuous evolution. The most common tags are:

1- `<?php ?>`: This is the standard PHP opening and closing tag. All PHP code is placed between these tags.
2- `<? ?>` (short tags): These are short-form tags for PHP code. However, their usage is discouraged due to potential compatibility issues and configuration settings on servers.
3- `<?= ?>` (echo short tags): This is a shorthand for echoing a value. It's equivalent to `<?php echo ... ?>`.

2. Variables

Variables in PHP start with the dollar sign $ followed by the variable name. Variable names are case-sensitive and must start with a letter or underscore, followed by letters, numbers, or underscores. In double-quoted strings, variables can be directly interpolated, meaning their values are automatically inserted into the string.

PHP offers various functions and operators for manipulating variables, such as arithmetic operators (+, -, *, /, %), assignment operators (=, +=, -=), comparison operators (==, !=, >, <, >=, <=), and concatenation operator (.)

Comments in php can be // or # for single line, and /**/ for multiple line

Example:

```php
<?php
$TA = "Dima";
echo "The TA for Web is $TA <br>";        //interpolation
echo "The TA for Web is " .$TA ."<br>";   //concatenation
// This is a single-line comment
?>
```

A variable declared inside a function has a local scope and can only be accessed inside that function, to use the global variable inside a local scope we use the word **global.** Also **static** variable, means that initialization happened only once.

Example:

```php
<?php
    $varG = 10; // global declaration
    function Test() {
        static $varL = 0;
        $varL += 2;
        global $varG;
        echo "<h6>Global variable is: $varG <br> Local variable is: $varL</h6>";
    }
    Test();
    Test();
    Test();
    ?>
```

3. Strings

In PHP, string functions are used to manipulate and work with strings, which are sequences of characters. Here's a summary of key points regarding string functions in PHP:

- **strlen($str)** are used to determine the length of a string.
- **substr($str, StartPos, NumberofChar)** are used to extract a portion of a string.
- **strpos()** search for string in string
- **str_replace(stringToReplace, StringToReplaceWith, $str)** used for replacing substrings within a string.
- **strtolower($str)**, **strtoupper($str)**, used to change the case of the word.
- **trim($str)** used to remove whitespace from the beginning and end of a string.
- **explode(delimiter, $str)** and **implode(delimiter, $str)** used for splitting and joining strings based on delimiters.

4. If statement

The if statement allows for conditional execution of code based on specified conditions.

It evaluates an expression inside parentheses and executes the block of code enclosed within curly braces {} if the expression evaluates to true.

It can be followed by elseif and else blocks for additional conditions and fallback actions.

Example:

```php
$num = 10;
if ($num > 0) {
    echo "Number is positive";
} elseif ($num == 0) {
    echo "Number is zero";
} else {
    echo "Number is negative";
}
```

5.For Loops

The for loop is used for iterating over a block of code a fixed number of times.
It consists of three parts: initialization, condition, and increment/decrement, separated by semicolons.
It initializes a counter variable, checks a condition, and executes the loop as long as the condition evaluates to true. After each iteration, the counter is incremented or decremented.
Example:

```php
for ($i = 0; $i < 5; $i++) {
    echo "Iteration: $i <br>";
}
```

6. Forms that uses php

A form in HTML page must declare 2 attributes to use php, the php file in action and the method either post or get.

GET method appends form data to the URL as query parameters.

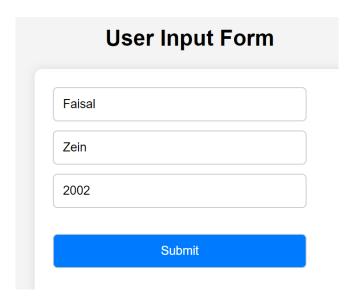POST method sends form data in the body of the HTTP request.

```html
<form action="phpFile.php" method="post">
```

In the PHP file, I can extract the data in either ways

```php
$name = $_GET['name']
$name = $_POST['name']
```

7.Task

Create a simple PHP script that takes user input through a form and processes it. In the form ask the user to enter his first name and last name and year of birth. Then when submit is pressed the php should validate the data and if correct year(positive) write a welcome sentence contains the first name last name and age.

User Input Form

First Name

Last Name

Year of Birth

Submit

User Input Form

Faisal

Zein

2002

Submit

Hello, Faisal Zein! You were born in 2002 and your age now is 22 years old .