

1st Weekend Class Recap: Introduction to PHP & Web

Topics

| | |
|---|---|
| 1. Introduction to PHP..... | 1 |
| 2. PHP Variables and Data Types | 2 |
| 3. PHP Operators | 2 |
| 4. Control Structures | 2 |
| 5. Functions | 4 |
| 6. Superglobals | 5 |
| 7. Basic Form Handling | 5 |
| 8. Introduction to Arrays | 5 |
| Key Concepts to Review for Week 1:..... | 6 |

1. Introduction to PHP

- **What is PHP?**
 - PHP (Hypertext Preprocessor) is a server-side scripting language used for web development. It is embedded in HTML and can handle dynamic content, session management, and database interactions.
- **PHP Syntax Basics:**
 - PHP code starts with `<?php` and ends with `?>`.
 - Each statement ends with a semicolon `;`.
 - PHP is case-sensitive.

Example:

```
<?php
    echo "Hello, World!";
?>
```

2. PHP Variables and Data Types

- **Variables:**
 - Variables are declared using the \$ sign.
 - Variables can store values such as strings, integers, and arrays.
- **Data Types:**
 - PHP supports several data types:
 - **String:** Text, e.g., "Hello"
 - **Integer:** Whole numbers, e.g., 10
 - **Float/Double:** Decimal numbers, e.g., 3.14
 - **Boolean:** True or false values, e.g., true
 - **Array:** An ordered collection of values, e.g., array(1, 2, 3)
 - **Object:** An instance of a class (covered in later weeks)

Example:

```
$name = "John"; // String
$age = 25;      // Integer
$height = 5.9; // Float
```

3. PHP Operators

- **Arithmetic Operators:** +, -, *, /, %
- **Comparison Operators:** ==, !=, >, <, >=, <=
- **Logical Operators:** && (and), || (or), ! (not)

Example:

```
$x = 10;
$y = 20;
$sum = $x + $y; // 30
```

4. Control Structures

- **If-Else Statement:**
 - Used for decision-making.

```
if ($age >= 18) {  
    echo "Adult";  
} else {  
    echo "Minor";  
}
```

- **Switch Statement:**
 - Used for multiple conditions.

```
switch ($day) {  
    case 1:  
        echo "Monday";  
        break;  
    case 2:  
        echo "Tuesday";  
        break;  
    default:  
        echo "Invalid day";  
}
```

}

- **Loops:**
 - **For Loop:** Repeats a block of code a set number of times.

```
for ($i = 0; $i < 5; $i++) {  
    echo $i;  
}
```

- **While Loop:** Repeats a block of code as long as the condition is true.

```
$i = 0;  
while ($i < 5) {  
    echo $i;  
    $i++;  
}
```

- **Foreach Loop:** Loops through arrays.

```
$colors = array("Red", "Green", "Blue");
foreach ($colors as $color) {
    echo $color;
}
```

5. Functions

- **Defining Functions:**

- Functions are blocks of reusable code. They are defined with the `function` keyword.

```
function greet($name) {
    echo "Hello, " . $name;
}
greet("Alice");
```

- **Return Values:**

- Functions can return a value using the `return` statement.

```
function add($x, $y) {
    return $x + $y;
}
$result = add(5, 10); // $result is 15
```

- **Function Arguments:**

- You can pass arguments to a function, and they can be optional with default values.

```
function greet($name = "Guest") {
    echo "Hello, " . $name;
}
greet(); // Outputs "Hello, Guest"
```

6. Superglobals

- **\$_GET, \$_POST, \$_REQUEST:** Used to collect form data.
- **\$_SERVER:** Contains information about headers, paths, and script locations.
- **\$_SESSION, \$_COOKIE:** Used for handling sessions and cookies.

Example:

```
$name = $_GET['name']; // Collects data from the URL
echo "Hello, " . $name;
```

7. Basic Form Handling

- **Form Submission:** You can use `$_POST` or `$_GET` to handle form submissions.
- Example of a simple form:

```
<form method="POST" action="process.php">
  <input type="text" name="name">
  <input type="submit" value="Submit">
</form>
```

In the `process.php` file:

```
$name = $_POST['name'];
echo "Hello, " . $name;
```

8. Introduction to Arrays

- **Indexed Arrays:** Arrays where each element is accessed by an index.

```
$colors = array("Red", "Green", "Blue");
echo $colors[0]; // Outputs "Red"
```

- **Associative Arrays:** Arrays where each element has a key.

```
$person = array("name" => "John", "age" => 30);  
echo $person["name"]; // Outputs "John"
```

- **Multidimensional Arrays:** Arrays inside other arrays.

```
$cars = array(  
    array("Ford", 2000),  
    array("Chevy", 2010)  
);  
echo $cars[0][0]; // Outputs "Ford"
```

Key Concepts to Review for Week 1:

- **PHP syntax:** Tags, statements, and comments.
 - **Variables and data types:** Strings, integers, booleans, arrays, etc.
 - **Operators:** Arithmetic, comparison, and logical.
 - **Control flow:** If-else, switch, and loops.
 - **Functions:** Declaration, return values, and arguments.
 - **Superglobals:** \$_GET, \$_POST, \$_SESSION, etc.
 - **Arrays:** Indexed, associative, and multidimensional..
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