
Practical 8 (Writeup)**Title:****Aim:****Theory:**

- What is PHP and Explain its Syntax

PHP, which stands for Hypertext Preprocessor, is a widely-used scripting language primarily designed for web development. It is embedded within HTML code and executed on the server side, meaning that PHP code is processed on the server before the resulting HTML is sent to the client's web browser.

PHP syntax is straightforward and follows a few key conventions:

1. Tags:

- PHP code is enclosed within `<?php ?>` tags.
- Example: `<?php echo "Hello, World!"; ?>`

2. Comments:

- Single-line comments start with `//` or `#`.
- Multi-line comments are enclosed between `/*` and `*/`.

3. Variables:

- PHP variables start with a `$` symbol followed by the variable name.
- Variable names are case-sensitive and can contain letters, numbers, and underscores.

4. Output:

- Use `echo` or `print` statements to display output or variables.
- Example: `echo "Hello, World!";`

5. Data Types:

- PHP supports various data types like strings, integers, floats, booleans, arrays, and more.
- Variables in PHP are loosely typed and can automatically change their type based on the assigned value.

6. Operators:

- PHP supports arithmetic, assignment, comparison, logical, and other operators.
- Example: `$result = $num1 + $num2;`

7. Conditional Statements:

- Use `if-else` and `switch` statements for conditional branching.
- Example:

```
if ($score > 90) {  
    echo "Excellent!";  
} elseif ($score > 70) {  
    echo "Good!";  
} else {  
    echo "Try harder!";  
}
```

8. Loops:

- PHP provides various loop constructs like for, while, do-while, and foreach for iteration.

- Example:

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

9. Functions:

- PHP allows you to define and use functions.

- Example:

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

`greet("Shubham Sawant");`

- How to install PHP in windows

1. Download the Windows binary package (zip) from the official PHP website.
2. Extract the contents of the downloaded zip file into a directory (e.g., C:\php).
3. Rename php.ini-development to php.ini and make necessary configuration changes.
4. Configure your web server (e.g., Apache) by adding PHP module and handlers to the server's configuration file (httpd.conf).
5. Start the web server and create a PHP file with the code `<?php phpinfo(); ?>` in the document root directory.
6. Access the PHP file through your web browser (e.g., `http://localhost/test.php`) to verify the installation.

- Operators

Operator	Description	Example
Arithmetic	Perform basic arithmetic operations	\$sum = \$num1 + \$num2;
Assignment	Assign values to variables	\$x = 5;
Comparison	Compare values	\$result = (\$a == \$b);
Logical	Perform logical operations	\$result = (\$a && \$b);
Increment/Decrement	Increase or decrease variable values	\$i++; \$j--;
String	Concatenate strings	\$greeting = "Hello, " . \$name . "!";
Array	Perform operations on arrays	\$length = count(\$array);
Conditional	Evaluate conditions and return values	\$result = (\$x > \$y) ? "Yes" : "No";
Ternary	Simplified version of conditional operator	\$result = (\$x > \$y) ? "Yes" : "No";
Null Coalescing	Return first non-null value	\$name = \$username ?? "Guest";
Type	Check variable type	\$isString = is_string(\$var);
Error Control	Control error reporting	@include('file.php');
Execution	Execute external commands or programs	\$output = `ls`;

- PHP Integer

An integer in PHP is a data type used to represent whole numbers without decimal points. It can be positive, negative, or zero. PHP supports mathematical operations on integers, and you can declare and assign integer values to variables. The range of integer values depends on the system's architecture, and PHP provides special constants (PHP_INT_MAX and PHP_INT_MIN) for the maximum and minimum integer values. Type casting functions and syntax allow you to convert other data types to integers when needed. Integers are commonly used for counting, calculations, and storing numerical data in PHP.

- PHP Boolean

A boolean in PHP is a data type that represents either true or false. Booleans are used for conditional statements, logical operations, and controlling program flow. They are assigned using the keywords true or false. Comparison and logical operators return boolean values, and booleans are commonly used in if-else statements and switch cases. PHP provides functions for boolean evaluations, such as is_array() or is_string(). Type casting and functions like empty() can convert other data types to boolean values. Booleans are essential for decision-making and implementing logic in PHP programs.

- 'echo' & 'print' statement

In PHP, both echo and print are used to output data or values to the browser or the command line. They are language constructs specifically designed for displaying text or variables.

Here's an explanation of echo and print statements:

1. echo Statement:

- echo is a construct and not a function, so parentheses are optional.
- It can display multiple values separated by commas.
- It does not have a return value.
- Example:

```
$name = "Shubham Sawant";
```

```
echo "Hello, " . $name . "!"; // Output: Hello, Shubham Sawant!
```

2. print Statement:

- print is also a construct and can be used with or without parentheses.
- It can display only one value at a time.
- It returns 1, so it can be used in expressions.
- Example:

```
$age = 22;
```

```
print "I am " . $age . " years old."; // Output: I am 22 years old.
```

- echo is generally considered to be slightly faster and more commonly used than print.
- echo does not have a return value, whereas print returns 1.
- echo can display multiple values separated by commas, while print can only display one value at a time.

Conclusion: PHP is a popular web development language with a syntax combining HTML and PHP code. It offers operators, supports boolean values, and has `echo` and `print` statements for outputting data.

**Code and output not available in this file.*