PHP - Program Structure

A PHP program has the following form:

1. Delimiters
2. Variables and Constant
3. Functions
4. Statements & Expressions
5. Semi colon
6. Comments

❖ Delimiters

You write PHP scripts within code declaration block, which are separate section on a Web page that are interpreted by the scripting engine. You can include as many code declaration blocks as you want within a document. This section discusses the following four types of code declaration block you can use to write PHP.

1. Standard PHP script delimiters
2. The <script> element
3. Short PHP script delimiters
4. ASP-style script delimiters

1. Standard PHP Scripts Delimiters

The standard method of writing PHP code declaration blocks is to use the <?php ?> script delimiters. A delimiter is a character or sequence of characters used to mark the beginning and end of a code segment. When the scripting engine encounters the <?php and ?> script delimiters, it processes any code between the delimiters as PHP.

```
<?php
    Statement;
?>
```

2. The Script <script> element

The syntax for script element delimiters is as follows:

```
<script language="php">
    Statement;
</script>
```

3. Short PHP Script element

This is called as PHP short tags which will work based on the value set with short open tag directive of PHP configuration file. The short script element writes in this form:

```
<?  Statement ?>
```

4. ASP Style Tags

The ASP style tags start with "<%" and ends with "%>". ASP style tags are only available when they are enabled in **php.ini** configuration file on servers.

```
<%
    Statement;
%>
```

The PHP Group officially recommends that you use standard PHP script delimiters to write PHP code declaration blocks. One reason is that standard PHP scripts are guaranteed to be available on any web server that supports PHP. Shortly delimiter, script element and ASP style script delimiters can be disabled.

❖ Variables and Constant

Variables are used to hold numbers, strings and complex data for manipulation. Variable is a name of memory addresses, where store data. Variable can be change during execution of program even Constant data cannot be change during the execution of program. Constant assign should be in single or double quotation.

❖ Functions

Functions are main building blocks of any PHP Program like print(), printf() and gettype() etc. The term function refers to a subroutine or individual statements grouped into a logical unit that performs a specific task.   You will work with built-in PHP function.

❖ Statements & Expressions

- The individual lines of code that make up a PHP script are called statement.
- Expressions, combine variables and constants to create new values.
- Statements are expressions, assignments, function calls, or control flow statements, which make up the PHP programs.

❖ Semi Colon

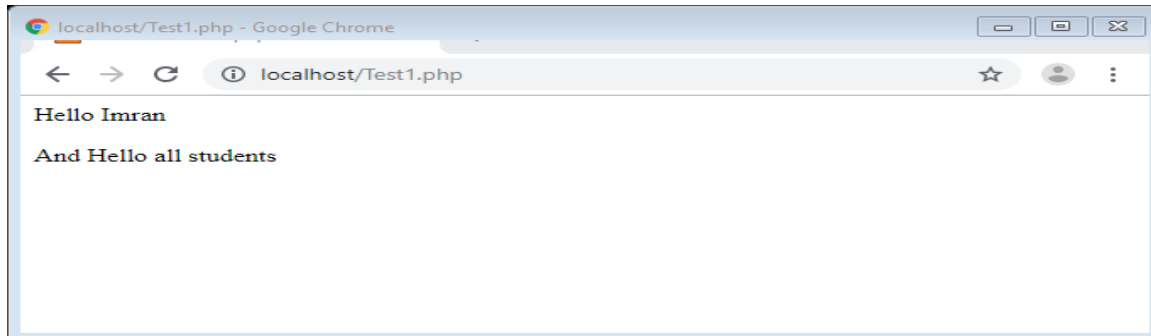Each statement must be terminate by   "**;**" (semicolon).

❖ Comments:

- Used to give additional useful information inside a PHP Program.
- A comment can span through multiple lines.
- For Single line comment :   //
- For Multiple Lines Comment: /*………*/
- For Single line comments: #

Example

```php
<?php
    /* This is multiple line comments in block form, this comments consist of two line. It
       is a first PHP program with echo and print statement in block form */
```

```
echo "Hello Imran  </br></br> ";  // this is  echo statement with 2 lines break.
print " And Hello all students <br>";  # this is a print statement.  ?>
```


Some basic syntax rule for PHP program

- PHP is a case sensitive language so all PHP keywords must be written in lower case letter.
- All PHP statement must be end with a semicolon.
- Variables name declare start $ sign like ($salary or $name etc)

What is Syntax?

The rules for using a programming language are called syntax. Syntax refers to the spelling and grammar of a programming language. Computers are inflexible machines that understand what you type only if you type it in the exact form that the computer expects. The expected form is called the syntax.

Creating Multiple Code Declaration Blocks

You can include as many PHP script section as you want within a document. However, when you include multiple script section in a document, you must include a separate code declaration block for each section.

Example

```html
<html>
<head>
    <title>  This is a Two section of php code blocks. </title>
</head>
<body>
<h1> This is a First PHP block of code here </h1>
  <?php
    echo  "This is  first PHP script section. </br> ";
  ?>
<h2> This is second PHP block code section here </h2>
  <?php
    print "This is the second PHP block code of section </br>";
  ?>
</body>
```

print and echo statements differences:

They are both used to output data to the screen. The differences are small: echo has no return value while print has a return value of 1 if successful otherwise 0 so it can be used in expressions. echo() can take multiple parameters (although such usage is rare) while print can take one argument. echo() is marginally faster than print. The echo and print() statement can be used with or without parentheses: echo or echo() , print or print().

You can use any HTML or XHTML formatting elements you want as part of the text string arguments and we use other element of HTML in echo or print statements. The following code shows the echo and print statement includes several HTML elements to format the appearance of the text string in a web browser.
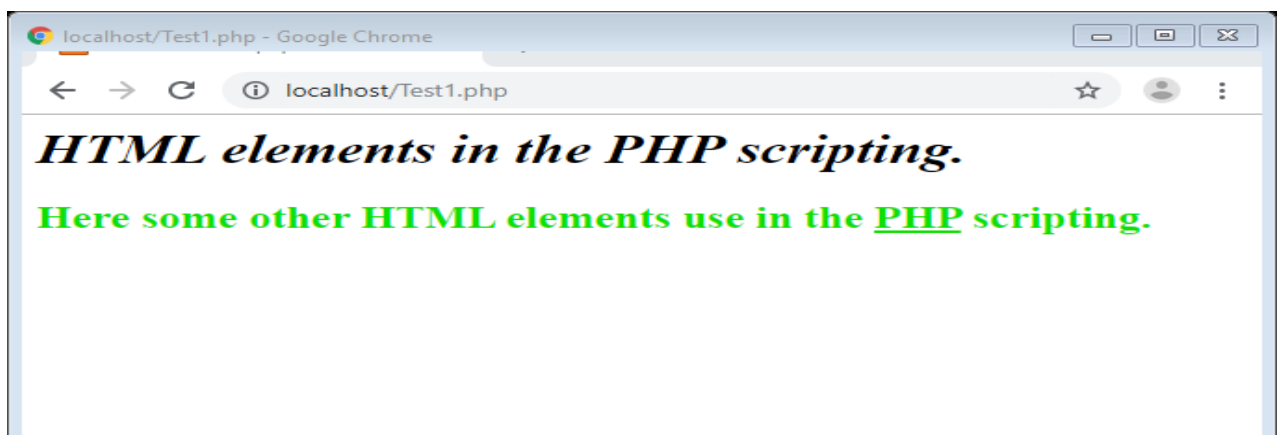
```php
<?php
  echo "<h1><i> <b>HTML</b> elements in the <b>PHP</b> scripting.</i> </h1> ";
  echo "<font face='Roman'  color='Green' >  ";
  print "<h2> Here some other<b> HTML</b> elements use in the <u>PHP</u> scripting. </h2> ";
  print "</font>";
?>
```

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Exercise

Theory Questions

1. What do you understand by the term *"Case Sensitive Language"*?
2. How many code declaration blocks can be inserted in a PHP document?
3. Why does the PHP Group recommend that you use standard PHP script delimiters to write PHP code declaration blocks?
4. Identify the two types of comments available in PHP and indicate when each would be used.
5. What is difference between the echo and print statement in PHP?
6. Write names list of PHP program structure.

Practical Questions

1. Write a simple PHP program to print your BIODATA on the browser screen.
2. Elaborate the Error(s) in the code below (if any).

```php
<?php
    / This is a comment for PHPprogram
    echo "Display first line </br>";
    echo "Display second line </br> "
    Print "Display third line with print statement ";
?>
```

3. Write down the correct code of above program.
4. Mention the output of above code.
5. Write PHP code to display any text on the browser uses HTML formatting tags within the echo statements.

Objective and MCQ's

1. What do you use to separate multiple argument that are passed to a function
   a) A period (.)
   b) A comma (,)
   c) A forward slash (/)
   d) A backward slash (\ )
2. You create line comments in PHP code by adding ___ to a line you want to use a comment.
   a) ||
   b) **
   c) /*
   d) //
3. Block comments begin with /* and end with ____
   a) */
   b) /*
   c) //
   d) **

4. Print has a return value is

a) 0 or 1
b) Greater 1
c) Less than 1
d) Not all above

5. The rules for using a programming language are called _____.
   a) Protocols
   b) Syntax
   c) Variables
   d) Comments

6. We can use HTML elements in the PHP scripting. You chose corrects code are following.
   a) echo " h1 Pakistan /h ";
   b) echo " <h1> Pakistan </h1> ";
   c) echo <h1> Pakistan </h1> ";
   d) <h1> Pakistan </h1>

7. All PHP statements must be end with a _____.
   a) Semicolon
   b) Commas
   c) Double quotations
   d) Single quotations

8. Combine variables and constants to create new values that are called ____.
   a) Variables
   b) Statement
   c) Expression
   d) Concatenation

9. PHP keywords or function must be used in _____case
   a) Upper case
   b) Camel case
   c) Sentence case
   d) Lower case

10 Standard PHP script delimiters
   a) <?   ?>
   b) <?php   ?>
   c) <%   %>
   d) <script language="php" > …   </script>