UNIT-4

1.Discuss about features of PHP.

The **PHP Hypertext Preprocessor (PHP)** is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications.

PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994.

PHP is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. I will list down some of the key advantages of learning PHP:

- PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
- PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.
- It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
- PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the Unix side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.
- PHP supports a large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time.
- PHP is forgiving: PHP language tries to be as forgiving as possible.
- PHP Syntax is C-Like.

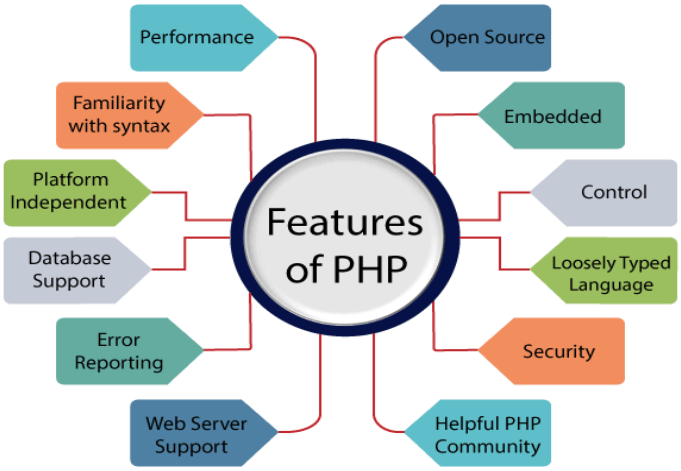
Characteristics of PHP

Five important characteristics make PHP's practical nature possible −

- Simplicity
- Efficiency
- Security
- Flexibility
- Familiarity

Applications of PHP

- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data, return data to the user.
- You add, delete, modify elements within your database through PHP.
- Access cookies variables and set cookies.
- Using PHP, you can restrict users to access some pages of your website.
- It can encrypt data



2. How to run PHP.

In order to develop and run PHP Web pages three vital components need to be installed on your computer system.

- **Web Server** − PHP will work with virtually all Web Server software, including Microsoft's Internet Information Server (IIS) but then most often used is freely available Apache Server. Download Apache for free here − https://httpd.apache.org/download.cgi . We CAN USE **XAMP SERVER.**
- **Database** − PHP will work with virtually all database software, including Oracle and Sybase but most commonly used is freely available MySQL database. Download MySQL for free here − https://www.mysql.com/downloads/
- **PHP Parser** − In order to process PHP script instructions a parser must be installed to generate HTML output that can be sent to the Web Browser. This tutorial will guide you how to install PHP parser on your computer.

// This is a single-line comment /* ……*/ for multiline.

This is also a single-line comment

Php Code is enclosed between

```
<?php...
…..
…..

?>
<html>

   <head>
      <title>Hello World</title>
   </head>

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

3. Describe variables, datatypes, constants operators in PHP.

In PHP, a variable is declared using a **$ sign** followed by the variable name. Here, some important points to know about variables:

As PHP is a loosely typed language, so we do not need to declare the data types of the variables. It automatically analyzes the values and makes conversions to its correct datatype.

After declaring a variable, it can be reused throughout the code.Assignment Operator (=) is used to assign the value to a variable.

Syntax of declaring a variable in PHP is given below:

$variablename=value;

PHP Constants

PHP constants are name or identifier that can't be changed during the execution of the script except for magic constants, which are not really constants. PHP constants can be defined by 2 ways:

- **Using define() function**
- **Using const keyword**

```
<?php
define("MESSAGE","Hello JavaTpoint PHP",true);//not case sensitive
echo MESSAGE, "</br>";
echo message;
const pi=3.14;
echo pi;
?>
```

PHP Data Types

Variables can store data of different types, and different data types can do different things. PHP supports the following data types:

- String
- Integer
- Float (floating point numbers - also called double)
- Boolean
- Array
- Object
- NULL

PHP String

A string is a sequence of characters, like "Hello world!".

A string can be any text inside quotes. You can use single or double quotes:

Example

```
<?php
$x = "Hello world!";
$y = 'Hello world!';
echo $x;
echo "<br>";  echo $y;?>
```

?>

PHP Operators

Operators are used to perform operations on variables and values.

PHP divides the operators in the following groups:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators
- String operators
- Conditional assignment operators

PHP Arithmetic Operators

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

Operator	Name	Example	Result
+	Addition	$x + $y	Sum of $x and $y
-	Subtraction	$x - $y	Difference of $x and $y
*	Multiplication	$x * $y	Product of $x and $y
/	Division	$x / $y	Quotient of $x and $y
%	Modulus	$x % $y	Remainder of $x divided by $y
**	Exponentiation	$x ** $y	Result of raising $x to the $y'th power

PHP Assignment Operators

The PHP assignment operators are used with numeric values to write a value to a variable.

The basic assignment operator in PHP is "=". It means that the left operand gets set to the value of the assignment expression on the right.

Assignment	Same as...	Description
x = y	x = y	The left operand gets set to the value of the expression on the right
x += y	x = x + y	Addition
x -= y	x = x - y	Subtraction
x *= y	x = x * y	Multiplication
x /= y	x = x / y	Division
x %= y	x = x % y	Modulus

PHP Comparison Operators

The PHP comparison operators are used to compare two values (number or string):

Operator	Name	Example	Result
==	Equal	$x == $y	Returns true if $x is equal to $y
===	Identical	$x === $y	Returns true if $x is equal to $y, and they are of the same type

!=	Not equal	$x != $y	Returns true if $x is not equal to $y
<>	Not equal	$x <> $y	Returns true if $x is not equal to $y
!==	Not identical	$x !== $y	Returns true if $x is not equal to $y, or they are not of the same type
>	Greater than	$x > $y	Returns true if $x is greater than $y
<	Less than	$x < $y	Returns true if $x is less than $y
>=	Greater than or equal to	$x >= $y	Returns true if $x is greater than or equal to $y
<=	Less than or equal to	$x <= $y	Returns true if $x is less than or equal to $y
<=>	Spaceship	$x <=> $y	Returns an integer less than, equal to, or greater than zero, depending on if $x is less than, equal to, or greater than $y. Introduced in PHP 7.

PHP Increment / Decrement Operators

The PHP increment operators are used to increment a variable's value.
The PHP decrement operators are used to decrement a variable's value.

Operator	**Name**	**Description**
++$x	Pre-increment	Increments $x by one, then returns $x
$x++	Post-increment	Returns $x, then increments $x by one
--$x	Pre-decrement	Decrements $x by one, then returns $x

$x--	Post-decrement	Returns $x, then decrements $x by one

PHP Logical Operators

- The PHP logical operators are used to combine conditional statements.

Operator	Name	Example	Result
and	And	$x and $y	True if both $x and $y are true
or	Or	$x or $y	True if either $x or $y is true
xor	Xor	$x xor $y	True if either $x or $y is true, but not both
&&	And	$x && $y	True if both $x and $y are true
||	Or	$x || $y	True if either $x or $y is true
!	Not	!$x	True if $x is not true

PHP String Operators

- PHP has two operators that are specially designed for strings.

Operator	Name	Example	Result
.	Concatenation	$txt1 . $txt2	Concatenation of $txt1 and $txt2
.=	Concatenation assignment	$txt1 .= $txt2	Appends $txt2 to $txt1

?: Ternary $x = expr1 ? expr2 : expr3 Returns the value of $x.

The value of $x is expr2 if expr1 = TRUE,The value of $x is expr3 if expr1 = FALSE

4.Discuss about echo/Print statement

PHP Echo

PHP echo is a language construct, not a function. Therefore, you don't need to use parenthesis with it. But if you want to use more than one parameter, it is required to use parenthesis.

The syntax of PHP echo is given below: **void echo (string $arg1 [, string $...])**

PHP Print

Like PHP echo, PHP print is a language construct, so you don't need to use parenthesis with the argument list. Print statement can be used with or without parentheses: print and print(). Unlike echo, it always returns 1.

The syntax of PHP print is given below: **int print(string $arg)**

```
<?php
print "Hello by PHP print ";
print ("Hello by PHP print()");
?>
```

5. write about $ and $$.

PHP $ and $$ Variables

The **$var** (single dollar) is a normal variable with the name var that stores any value like string, integer, float, etc.

The **$$var** (double dollar) is a reference variable that stores the value of the $variable inside it.

```
<?php
$x = "abc";
$$x = 200;
echo $x."<br/>";
echo $$x."<br/>";
echo $abc;
?>
```

5. Discuss about Decision making in PHP.

PHP If Else

PHP if else statement is used to test condition. There are various ways to use if statement in PHP.

- if
- if-else

- if-else-if
- nested if

PHP If Statement

PHP if statement allows conditional execution of code. It is executed if condition is true.

If statement is used to executes the block of code exist inside the if statement only if the specified condition is true.

Syntax:

if(condition){

//code to be executed

}

```
1. Ex:- <?php
2. $num=12;
3. if($num<100){
4. echo "$num is less than 100";
5. }
6. ?>
7.
```

PHP If-else Statement

PHP if-else statement is executed whether condition is true or false.

If-else statement is slightly different from if statement. It executes one block of code if the specified condition is true and another block of code if the condition is false.

Syntax:-

if(condition){

//code to be executed if true

}else{

//code to be executed if false

}

```
1. <?php
2. $num=12;
3. if($num%2==0){
4. echo "$num is even number";
5. }else{
6. echo "$num is odd number";
7. }
8. ?>
```

If-elsif statement

Syntax:-

if (condition1){

//code to be executed if condition1 is true

} elseif (condition2){

//code to be executed if condition2 is true

} elseif (condition3){

//code to be executed if condition3 is true

....

} else{

//code to be executed if all given conditions are false

}

```php
<?php
    $marks=69;
    if ($marks<33){
        echo "fail";
    }
    else if ($marks>=34 && $marks<50) {
        echo "D grade";
    }
    else if ($marks>=50 && $marks<65) {
       echo "C grade";
    }
    else if ($marks>=65 && $marks<80) {
        echo "B grade";
    }
    else if ($marks>=80 && $marks<90) {
        echo "A grade";
    }
    else if ($marks>=90 && $marks<100) {
        echo "A+ grade";
    }
   else {
        echo "Invalid input";
    }
?>
```

```
1. //nested IF statement
2. <?php
3.          $age = 23;
4.    $nationality = "Indian";
5.    //applying conditions on nationality and age
6.    if ($nationality == "Indian")
7.    {
8.       if ($age >= 18) {
9.          echo "Eligible to give vote";
10.      }
11.      else {
12.         echo "Not eligible to give vote";
13.      }
14.   }
15. ?>
```

The Switch Statement

If you want to select one of many blocks of code to be executed, use the Switch statement.

The switch statement is used to avoid long blocks of if..elseif..else code.

Syntax

```
switch (expression){
   case label1:
      code to be executed if expression = label1;
      break;

   case label2:
      code to be executed if expression = label2;
      break;
      default:

   code to be executed
   if expression is different
   from both label1 and label2;
}
```

Important points to be noticed about switch case:

1. The **default** is an optional statement. Even it is not important, that default must always be the last statement.

2. There can be only one **default** in a switch statement. More than one default may lead to a **Fatal** error.
3. Each case can have a **break** statement, which is used to terminate the sequence of statement.
4. The **break** statement is optional to use in switch. If break is not used, all the statements will execute after finding matched case value.
5. PHP allows you to use number, character, string, as well as functions in switch expression.
6. Nesting of switch statements is allowed, but it makes the program more complex and less readable.
7. You can use semicolon (;) instead of colon (:). It will not generate any error.

```
<?php
$num=20;
switch($num){
case 10:
echo("number is equals to 10");
break;
case 20:
echo("number is equal to 20");
break;
case 30:
echo("number is equal to 30");
break;
default:
echo("number is not equal to 10, 20 or
    30");
}
?>
```

```
<?php
    $ch = "B.Tech";
    switch ($ch)
    {
        case "BCA":
            echo "BCA is 3 years cou
    rse";
            break;
        case "Bsc":
            echo "Bsc is 3 years cour
    se";
            break;
        case "B.Tech":
            echo "B.Tech is 4 years c
    ourse";
            break;
        case "B.Arch":
            echo "B.Arch is 5 years c
    ourse";
            break;
        default:
            echo "Wrong Choice";
            break;
    }
?>
```

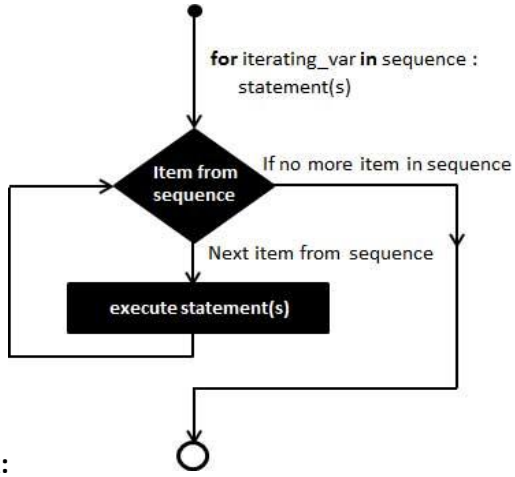
6. Explain about Repetition statements/Loops in PHP.

Loop in PHP are used to execute the same block of code a specified number of times. PHP supports following four loop types.

- **for** − loops through a block of code a specified number of times.
- **while** − loops through a block of code if and as long as a specified condition is true.
- **do...while** − loops through a block of code once, and then repeats the loop as long as a special condition is true.
- **foreach** − loops through a block of code for each element in an array.

The for loop statement

The for statement is used when you know how many times you want to execute a statement or a block of statements.



Syntax:

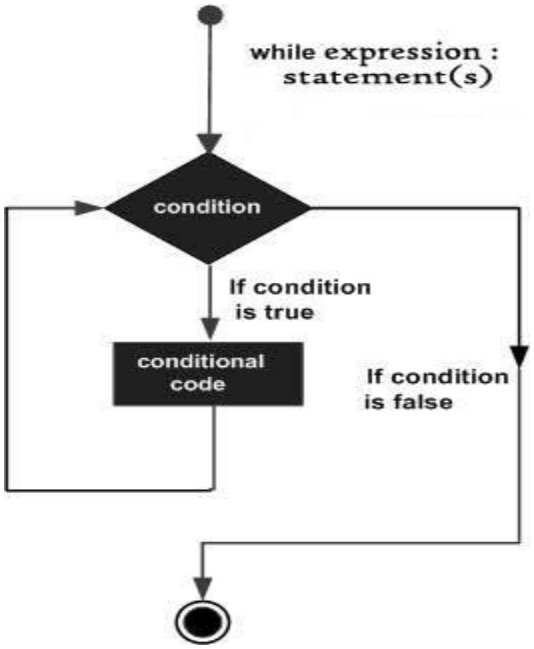
```
for (initialization; condition; increment){

  code to be executed;

}
```

```
<html>
  <body>
    <?php
      $a = 0;
      $b = 0;

      for( $i = 0; $i<5; $i++ ) {
        $a += 10;
        $b += 5;
      }
            echo ("At the end of the loop a = $a and b = $b" );
    ?>

  </body>
</html>
```

The while loop statement

The while statement will execute a block of code if and as long as a test expression is true.

If the test expression is true then the code block will be executed. After the code has executed the test expression will again be evaluated and the loop will continue until the test expression is found to be false.



Syntax:-

```
while (condition) {
  code to be executed;
}
```

```
<html>
  <body>
   <?php
       $i = 0;
       $num = 50;

       while( $i < 10) {
         $num--;
         $i++;
       }
        echo ("Loop stopped at i = $i and num = $num" );
    ?>
   </body>
</html>
```

The do...while loop statement

The do...while statement will execute a block of code at least once - it then will repeat the loop as long as a condition is true.

Syntax

```
do {
   code to be executed;
}
while (condition);
```

```
<?php
          $i = 0;
          $num = 0;

          do {
             $i++;
          }

          while( $i < 10 );
          echo ("Loop stopped at i = $i" );
       ?>
```

The foreach loop statement

The foreach statement is used to loop through arrays. For each pass the value of the current array element is assigned to $value and the array pointer is moved by one and in the next pass next element will be processed.

Syntax

```
foreach (array as value) {
   code to be executed;
}
```

```
<html>
   <body>

      <?php
         $array = array( 1, 2, 3, 4, 5);

         foreach( $array as $value ) {
            echo "Value is $value <br />";
         }
      ?>

   </body>
</html>
```

7. Discuss about PHP arrays.

An array is a data structure that stores one or more similar type of values in a single value. There are three different kind of arrays and each array value is accessed using an ID c which is called array index.

- **Numeric array** − An array with a numeric index. Values are stored and accessed in linear fashion.
- **Associative array** − An array with strings as index. This stores element values in association with key values rather than in a strict linear index order.
- **Multidimensional array** − An array containing one or more arrays and values are accessed using multiple indices

Numeric Array

These arrays can store numbers, strings and any object but their index will be represented by numbers. By default array index starts from zero.

Example

Following is the example showing how to create and access numeric arrays.

Create an Array in PHP

In PHP, the `array()` function is used to create an array: `array();`

```
<html>
  <body>

    <?php
      /* First method to create array. */
      $numbers = array( 1, 2, 3, 4, 5);

      foreach( $numbers as $value ) {
        echo "Value is $value <br />";
      }
            /* Second method to create array. */
      $numbers[0] = "one";
      $numbers[1] = "two";
      $numbers[2] = "three";
      $numbers[3] = "four";
      $numbers[4] = "five";

      foreach( $numbers as $value ) {
        echo "Value is $value <br />";
      }
    ?>

  </body>
</html>
```

```
<?php
$cars = array("Volvo", "BMW", "Toyota");
echo "I like " . $cars[0] . ", " . $cars[1] . " and " . $cars[2] . ".";
?>
```

PHP Associative Arrays

Associative arrays are arrays that use named keys that you assign to them.

It is created as array(key=>value,key=>value..);

There are two ways to create an associative array:

```
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");
```

Ex:-1

```
<?php
$salary=array("Sonoo"=>"350000","John"=>"450000","Kartik"=>"200000");
echo "Sonoo salary: ".$salary["Sonoo"]."<br/>";
echo "John salary: ".$salary["John"]."<br/>";
echo "Kartik salary: ".$salary["Kartik"]."<br/>";
?>
```

Ex:-2

```
<?php
$size=array("Big","Medium","Short");
foreach( $size as $s )
{
  echo "Size is: $s<br />";
}
?>
```

Ex:-3

```
<?php
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");

foreach($age as $x => $x_value) {
   echo "Key=" . $x . ", Value=" . $x_value;
   echo "<br>";
}
?>
```

PHP Multidimensional Array

PHP multidimensional array is also known as array of arrays. It allows you to store tabular data in an array. PHP multidimensional array can be represented in the form of matrix which is represented by row * column.

```
<?php
$emp = array
  (
  array(1,"sonoo",400000),
  array(2,"john",500000),
  array(3,"rahul",300000)
  );

```

```
for ($row = 0; $row < 3; $row++) {
  for ($col = 0; $col < 3; $col++) {
    echo $emp[$row][$col]."  ";
  }
  echo "<br/>";
}
?>
```

Array Functions

1) PHP array() function
PHP array() function creates and returns an array. It allows you to create indexed, associative and multidimensional arrays.

2) PHP array_change_key_case() function
PHP array_change_key_case() function changes the case of all key of an array.
array array_change_key_case (array $array [, int $case = CASE_LOWER])

3) PHP count() function
PHP count() function counts all elements in an array.

4)PHP sort() function
PHP sort() function sorts all the elements in an array

Ex:-
```
<?php
$season=array("summer","winter","spring","autumn");
sort($season);
foreach( $season as $s )
{
 echo "$s<br />";
}
?>
```

5) PHP array_reverse() function
PHP array_reverse() function returns an array containing elements in reversed order.

6)PHP array_search() function
PHP array_search() function searches the specified value in an array. It returns key if search is successful.

```
<?php
$season=array("summer","winter","spring","autumn");
$key=array_search("spring",$season);
echo $key;
?>
```

8.Explain about PHP strings and functions.
PHP string is a sequence of characters i.e., used to store and manipulate text. PHP supports only 256-character set and so that it does not offer native Unicode support. There are 4 ways to specify a string literal in PHP.

```
<?php
$str1='Hello text
multiple line
text within single quoted string';
$str2='Using double "quote" directly inside single quoted string';
$str3='Using escape sequences \n in single quoted string';
echo "$str1 <br/> $str2 <br/> $str3";
?>
```

PHP String Functions

strlen() - Return the Length of a String

```
<?php
echo strlen("Hello world!"); // outputs 12
?>
```

str_word_count() - Count Words in a String

The PHP str_word_count() function counts the number of words in a string.

```
<?php
echo str_word_count("Hello world!"); // outputs 2
?>
```

strrev() - Reverse a String

The PHP strrev() function reverses a string.

```
<?php
echo strrev("Hello world!"); // outputs !dlrow olleH
?>
```

strpos() - Search For a Text Within a String

The PHP strpos() function searches for a specific text within a string. If a match is found, the function returns the character position of the first match. If no match is found, it will return FALSE.

```
<?php
echo strpos("Hello world!", "world"); // outputs 6
?>
```

str_replace() - Replace Text Within a String

The PHP str_replace() function replaces some characters with some other characters in a string.

```
<?php
echo str_replace("world", "Dolly", "Hello world!"); // outputs Hello Dolly!
?>
```

9.Discuss about SUPERGLOBAL variables.

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.

The PHP superglobal variables are:

$GLOBALS
$_SERVER
$_REQUEST
$_POST
$_GET
$_FILES
$_ENV
$_COOKIE
$_SESSION

$GLOBALS

$GLOBALS is a PHP super global variable which is used to access global variables from anywhere in the PHP script (also from within functions or methods).PHP stores all global variables in an array called $GLOBALS[index]. The index holds the name of the variable.

```
<?php
$x = 75;
$y = 25;
```

```
function addition() {
   $GLOBALS['z'] = $GLOBALS['x'] + $GLOBALS['y'];
}
 addition();
echo $z;
?>
```

$_SERVER
$_SERVER is a PHP super global variable which holds information about headers, paths, and script locations.

```
<?php
echo $_SERVER['PHP_SELF'];
echo "<br>";
echo $_SERVER['SERVER_NAME'];
echo "<br>";
echo $_SERVER['HTTP_HOST'];
echo "<br>";
echo $_SERVER['HTTP_REFERER'];
echo "<br>";
echo $_SERVER['HTTP_USER_AGENT'];
echo "<br>";
echo $_SERVER['SCRIPT_NAME'];
?>
```

The following table lists the most important elements that can go inside $_SERVER:

Element/Code	**Description**
$_SERVER['PHP_SELF']	Returns the filename of the currently executing script
$_SERVER['GATEWAY_INTERFACE']	Returns the version of the Common Gateway Interface (CGI) the server is using
$_SERVER['SERVER_ADDR']	Returns the IP address of the host server
$_SERVER['SERVER_NAME']	Returns the name of the host server (such as www.w3schools.com)
$_SERVER['SERVER_SOFTWARE']	Returns the server identification string (such as Apache/2.2.24)

$_SERVER['SERVER_PROTOCOL']	Returns the name and revision of the information protocol (such as HTTP/1.1)
$_SERVER['REQUEST_METHOD']	Returns the request method used to access the page (such as POST)
$_SERVER['REQUEST_TIME']	Returns the timestamp of the start of the request (such as 1377687496)
$_SERVER['QUERY_STRING']	Returns the query string if the page is accessed via a query string
$_SERVER['HTTP_ACCEPT']	Returns the Accept header from the current request

$_REQUEST

PHP $_REQUEST is a PHP super global variable which is used to collect data after submitting an HTML form.

```
<html>
<body>

<form method="post" action="<?php echo $_SERVER['PHP_SELF'];?>">
  Name: <input type="text" name="fname">
  <input type="submit">
</form>

<?php
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // collect value of input field
    $name = $_REQUEST['fname'];
    if (empty($name)) {
        echo "Name is empty";
    } else {
        echo $name;
    }
}
?>

</body>
</html>
```

$_POST

PHP $_POST is a PHP super global variable which is used to collect form data after submitting an HTML form with method="post". $_POST is also widely used to pass variables.

The example below shows a form with an input field and a submit button. When a user submits the data by clicking on "Submit", the form data is sent to the file specified in the action attribute of the <form> tag. In this example, we point to the file itself for processing form data. If you wish to use another PHP file to process form

data, replace that with the filename of your choice. Then, we can use the super global variable $_POST to collect the value of the input field:

```
<html>
<body>

<form method="post" action="<?php echo $_SERVER['PHP_SELF'];?>">
  Name: <input type="text" name="fname">
  <input type="submit">
</form>

<?php
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // collect value of input field
    $name = $_POST['fname'];
    if (empty($name)) {
        echo "Name is empty";
    } else {
        echo $name;
    }
}
?>

</body>
</html>
```

$_GET

PHP $_GET is a PHP super global variable which is used to collect form data after submitting an HTML form with method="get".

$_GET can also collect data sent in the URL.

Assume we have an HTML page that contains a hyperlink with parameters:

```
<html>
<body>

<a href="test_get.php?subject=PHP&web=W3schools.com">Test $GET</a>

</body>
</html>
```

10.What is a Cookie? How it is handled in PHP

A cookie is often used to identify a user. A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.

Create Cookies With PHP

A cookie is created with the setcookie() function. Syntax setcookie(*name, value, expire, path, domain, secure, httponly*);

PHP Create/Retrieve a Cookie

The following example creates a cookie named "user" with the value "John Doe". The cookie will expire after 30 days (86400 * 30). The "/" means that the cookie is available in entire website (otherwise, select the directory you prefer).

We then retrieve the value of the cookie "user" (using the global variable $_COOKIE). We also use the isset() function to find out if the cookie is set:

```
<?php
$cookie_name = "user";
$cookie_value = "John Doe";
setcookie($cookie_name, $cookie_value, time() + (86400 * 30), "/"); // 86400 = 1 day
?>
<html>
<body>

<?php
if(!isset($_COOKIE[$cookie_name])) {
    echo "Cookie named '" . $cookie_name . "' is not set!";
} else {
    echo "Cookie '" . $cookie_name . "' is set!<br>";
    echo "Value is: " . $_COOKIE[$cookie_name];
}
?>
</body>
</html>
```

11. Explain about PHP User Defined Functions and its usage

Besides the built-in PHP functions, it is possible to create your own functions.

- A function is a block of statements that can be used repeatedly in a program.
- A function will not execute automatically when a page loads.
- A function will be executed by a call to the function.

Create a User Defined Function in PHP

A user-defined function declaration starts with the word function:

Syntax

function *functionName*() {
  ***code to be executed*;**
}

```
<?php
function writeMsg() {
    echo "Hello world!";
}

writeMsg(); // call the function
?>
```

PHP Function Arguments

Information can be passed to functions through arguments. An argument is just like a variable.

Arguments are specified after the function name, inside the parentheses. You can add as many arguments as you want, just separate them with a comma.

```
<?php
function familyName($fname, $year) {
    echo "$fname Refsnes. Born in $year <br>";
}

familyName("Hege", "1975");
familyName("Stale", "1978");
familyName("Kai Jim", "1983");
?>
```

PHP Functions - Returning values

To let a function return a value, use the `return` statement:

```
<?php declare(strict_types=1); // strict requirement
function sum(int $x, int $y) {
    $z = $x + $y;
    return $z;
}

echo "5 + 10 = " . sum(5, 10) . "<br>";
echo "7 + 13 = " . sum(7, 13) . "<br>";
echo "2 + 4 = " . sum(2, 4);
?>
```

12.Write about Date and Time functions in PHP.

The PHP Date() Function
The PHP date() function formats a timestamp to a more readable date and time.
Syntax date(format,timestamp)

Get a Date

The required *format* parameter of the date() function specifies how to format the date (or time).

Here are some characters that are commonly used for dates:

- d - Represents the day of the month (01 to 31)
- m - Represents a month (01 to 12)
- Y - Represents a year (in four digits)
- l (lowercase 'L') - Represents the day of the week

Other characters, like"/", ".", or "-" can also be inserted between the characters to add additional formatting.

```php
<?php
echo "Today is " . date("Y/m/d") . "<br>";
echo "Today is " . date("Y.m.d") . "<br>";
echo "Today is " . date("Y-m-d") . "<br>";
echo "Today is " . date("l");
?>
```

Get a Time

Here are some characters that are commonly used for times:

- H - 24-hour format of an hour (00 to 23)
- h - 12-hour format of an hour with leading zeros (01 to 12)
- i - Minutes with leading zeros (00 to 59)
- s - Seconds with leading zeros (00 to 59)
- a - Lowercase Ante meridiem and Post meridiem (am or pm)

```php
<?php
echo "The time is " . date("h:i:sa");
?>
```

Create a Date From a String With strtotime()

The PHP strtotime() function is used to convert a human readable date string into a Unix timestamp (the number of seconds since January 1 1970 00:00:00 GMT).

Syntax strtotime(time, now)

The example below creates a date and time from the strtotime() function:

Example

```php
<?php

$d=strtotime("10:30pm April 15 2014");

echo "Created date is " . date("Y-m-d h:i:sa", $d);

?>
```

PHP Date/Time Functions

Function	Description
checkdate()	Validates a Gregorian date
date_add()	Adds days, months, years, hours, minutes, and seconds to a date
date_diff()	Returns the difference between two dates
date_format()	Returns a date formatted according to a specified format
date_parse()	Returns an associative array with detailed info about a specified date
date_sub()	Subtracts days, months, years, hours, minutes, and seconds from a date

date_sunrise()	Returns the sunrise time for a specified day and location
date_sunset()	Returns the sunset time for a specified day and location
date_time_set()	Sets the time
date_timestamp_get()	Returns the Unix timestamp
date_timestamp_set()	Sets the date and time based on a Unix timestamp
date()	Formats a local date and time
getdate()	Returns date/time information of a timestamp or the current local date/time
gettimeofday()	Returns the current time

Examples:-

```
1.<?php
$date1=date_create("2013-03-15");
$date2=date_create("2013-12-12");
$diff=date_diff($date1,$date2);

2. <!DOCTYPE html>

<html>
<body>
<?php
$date=date_create("2013-03-15");
echo date_format($date,"Y/m/d H:i:s");
?>
</body>
</html>>
```

13.Discuss about PHP form handling.

PHP Form Handling

We can create and use forms in PHP. To get form data, we need to use **PHP superglobals $_GET and $_POST.**

The form request may be get or post. To retrieve data from get request, we need to use $_GET, for post request $_POST.

PHP Get Form

Get request is the default form request. The data passed through get request is visible on the URL browser so it is not secured. You can send limited amount of data through get request.

```
1. <form action="welcome.php" method="get">
2. Name: <input type="text" name="name"/>
3. <input type="submit" value="visit"/>
4. </form>
```

File: welcome.php

```
1. <?php
```

```
2. $name=$_GET["name"];//receiving name field value in $name variable
3. echo "Welcome, $name";
4. ?>
```

PHP Post Form

Post request is widely used to submit form that have large amount of data such as file upload, image upload, login form, registration form etc.

The data passed through post request is not visible on the URL browser so it is secured. You can send large amount of data through post request.

Let's see a simple example to receive data from post request in PHP.

File: form1.html

```
1. <form action="login.php" method="post">
2. <table>
3. <tr><td>Name:</td><td> <input type="text" name="name"/></td></tr>
4. <tr><td>Password:</td><td> <input type="password" name="password"/></td></tr>
5. <tr><td colspan="2"><input type="submit" value="login"/>  </td></tr>
6. </table>
7. </form>
```

File: login.php

```
1. <?php
2. $name=$_POST["name"];//receiving name field value in $name variable
3. $password=$_POST["password"];//receiving password field value in $password variable
4.
5. echo "Welcome: $name, your password is: $password";
6. ?>
```

14. What is MySQL and its features?

MySQL is one of the most popular relational database system being used on the Web today. It is freely available and easy to install, however if you have installed Wampserver it already there on your machine. MySQL database server offers several advantages:

1. MySQL is easy to use, yet extremely powerful, fast, secure, and scalable.
2. MySQL runs on a wide range of operating systems, including UNIX or Linux, Microsoft Windows, Apple Mac OS X, and others.
3. MySQL supports standard SQL (Structured Query Language).
4. MySQL is ideal database solution for both small and large applications.
5. MySQL is developed, and distributed by Oracle Corporation.
6. MySQL includes data security layers that protect sensitive data from intruders.

Note:- All the commands are SQL commands with minor changes.

15. Discuss about PHP Database Handling with example.

a)Ways of Connecting to MySQL through PHP

In order to store or access the data inside a MySQL database, you first need to connect to the MySQL database server. PHP offers two different ways to connect to MySQL server: **MySQLi** (Improved MySQL) and **PDO** (PHP Data Objects) extensions.

While the PDO extension is more portable and supports more than twelve different databases, MySQLi extension as the name suggests supports MySQL database only. MySQLi extension however provides an easier way to connect to, and execute queries on, a MySQL database server.

b)Connecting to MySQL Database Server

In PHP you can easily do this using the mysqli_connect() function. All communication between PHP and the MySQL database server takes place through this connection. Here're the basic syntaxes for connecting to MySQL using MySQLi and PDO extensions:

Syntax: MySQLi, Object Oriented way

```
$mysqli = new mysqli("hostname", "username", "password", "database");
```

Syntax: PHP Data Objects (PDO) way

```
$pdo = new PDO("mysql:host=hostname;dbname=database", "username", "password");
```

The *hostname* parameter in the above syntax specify the host name (e.g. `localhost`), or IP address of the MySQL server, whereas the *username* and *password* parameters specifies the credentials to access MySQL server, and the *database* parameter, if provided will specify the default MySQL database to be used when performing queries.

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";

// Create connection
$conn = new mysqli($servername, $username, $password);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
echo "Connected successfully";
?>
```

Close the Connection

The connection will be closed automatically when the script ends. To close the connection before, use the following:

MySQLi Object-Oriented:

```
$conn->close();
```

Create a MySQL Database Using MySQLi and PDO

The CREATE DATABASE statement is used to create a database in MySQL.

The following examples create a database named "myDB":

Example (MySQLi Object-oriented)

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";

// Create connection
$conn = new mysqli($servername, $username, $password);
// Check connection
if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
}

// Create database
$sql = "CREATE DATABASE myDB";
if ($conn->query($sql) === TRUE) {
   echo "Database created successfully";
} else {
   echo "Error creating database: " . $conn->error;
}

$conn->close();
?>
```

Insert Data Into MySQL Using MySQLi and PDO

After a database and a table have been created, we can start adding data in them.

Here are some syntax rules to follow:

- The SQL query must be quoted in PHP
- String values inside the SQL query must be quoted
- Numeric values must not be quoted
- The word NULL must not be quoted

The INSERT INTO statement is used to add new records to a MySQL table:

INSERT INTO table_name (column1, column2, column3,...)
VALUES (value1, value2, value3,...)

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";
$dbname = "myDB";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$sql = "INSERT INTO MyGuests (firstname, lastname, email)
VALUES ('John', 'Doe', 'john@example.com')";

if ($conn->query($sql) === TRUE) {
    echo "New record created successfully";
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}

$conn->close();
?>
```

Select Data From a MySQL Database

The SELECT statement is used to select data from one or more tables:

```
SELECT column_name(s) FROM table_name
```

or we can use the * character to select ALL columns from a table:

```
SELECT * FROM table_name
```

Select Data With MySQLi

The following example selects the id, firstname and lastname columns from the MyGuests table and displays it on the page:

Example (MySQLi Object-oriented)

```
<?php
$servername = "localhost";
$username = "username";
```

```
$password = "password";
$dbname = "myDB";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
}

$sql = "SELECT id, firstname, lastname FROM MyGuests";
$result = $conn->query($sql);

if ($result->num_rows > 0) {
   // output data of each row
   while($row = $result->fetch_assoc()) {
      echo "id: " . $row["id"]. " - Name: " . $row["firstname"]. " " . $row["lastname"]. "<br>";
   }
} else {
   echo "0 results";
}
$conn->close();
?>
```

Delete Data From a MySQL Table Using MySQLi and PDO

The DELETE statement is used to delete records from a table:

```
DELETE FROM table_name WHERE some_column = some_value
```

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";
$dbname = "myDB";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
}

// sql to delete a record
$sql = "DELETE FROM MyGuests WHERE id=3";

if ($conn->query($sql) === TRUE) {
   echo "Record deleted successfully";
} else {
```

```
  echo "Error deleting record: " . $conn->error;
}

$conn->close();
?>
```

Update Data In a MySQL Table Using MySQLi

The UPDATE statement is used to update existing records in a table:

```
UPDATE table_name
SET column1=value, column2=value2,...
WHERE some_column=some_value
```

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";
$dbname = "myDB";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}

$sql = "UPDATE MyGuests SET lastname='Doe' WHERE id=2";

if ($conn->query($sql) === TRUE) {
  echo "Record updated successfully";
} else {
  echo "Error updating record: " . $conn->error;
}

$conn->close();
?>
```