DATE: HYPERTEXT PRE-PROCESSOR (PHP)

EX. NO.: 10

What is PHP

- PHP stands for **P**HP: **H**ypertext **P**reprocessor
- PHP is a powerful tool for making dynamic and interactive web pages.
- PHP is the widely used, free, and efficient alternative to competitors such as Microsoft's ASP.
- PHP is a server-side scripting language, like ASP
- PHP scripts are executed on the server
- PHP supports many databases (MySQL, Informix, Oracle, Sybase, Solid, PostgreSQL, Generic ODBC, etc.)
- PHP is an open source software
- PHP is free to download and use

What is a PHP File

- PHP files can contain text, HTML tags and scripts
- PHP files are returned to the browser as plain HTML
- PHP files have a file extension of ".php", ".php3", or ".phtml"

What is MySQL

- MySQL is a database server
- MySQL is ideal for both small and large applications
- MySQL supports standard SQL
- MySQL compiles on a number of platforms
- MySQL is free to download and use

PHP + MySQL

- PHP combined with MySQL are cross-platform (you can develop in Windows and serve on a Unix platform)

Basic PHP Syntax

A PHP scripting block always starts with **<?php** and ends with **?>**. A PHP scripting block can be placed anywhere in the document.

On servers with shorthand support enabled you can start a scripting block with <? and end with ?>.

For maximum compatibility, we recommend that you use the standard form (<?php) rather than the shorthand form.

```
<?php
?>
```

Comments in PHP

In PHP, we use // to make a single-line comment or /* and */ to make a large comment block.

```
<html>
<body>

<?php
//This is a comment

/*
This is
a comment
block
```

```
*/
?>

</body>
</html>
```

Variables in PHP

Variables are used for storing a values, like text strings, numbers or arrays.

When a variable is declared, it can be used over and over again in your script.

All variables in PHP start with a $ sign symbol.

The correct way of declaring a variable in PHP:

```
$var_name = value;
```

New PHP programmers often forget the $ sign at the beginning of the variable. In that case it will not work.

creating a variable containing a string, and a variable containing a number:

```
<?php
$txt="Hello World!";
$x=16;
?>
```

PHP is a Loosely Typed Language

In PHP, a variable does not need to be declared before adding a value to it.

In the example above, you see that you do not have to tell PHP which data type the variable is.

PHP automatically converts the variable to the correct data type, depending on its value.

In a strongly typed programming language, you have to declare (define) the type and name of the variable before using it.

In PHP, the variable is declared automatically when you use it.

Naming Rules for Variables

- A variable name must start with a letter or an underscore "_"
- A variable name can only contain alpha-numeric characters and underscores (a-z, A-Z, 0-9, and _)
- A variable name should not contain spaces. If a variable name is more than one word, it should be separated with an underscore ($my_string), or with capitalization ($myString)

A string variable is used to store and manipulate text.

String Variables in PHP

String variables are used for values that contains characters.

In this chapter we are going to look at the most common functions and operators used to manipulate strings in PHP.

After we create a string we can manipulate it. A string can be used directly in a function or it can be stored in a variable.

Below, the PHP script assigns the text "Hello World" to a string variable called $txt:

```
<?php
$txt="Hello World";
echo $txt;
?>
```

The output of the code above will be:

```
Hello World
```

The Concatenation Operator

There is only one string operator in PHP.

The concatenation operator (.) is used to put two string values together.

To concatenate two string variables together, use the concatenation operator:

```
<?php
$txt1="Hello World!";
$txt2="What a nice day!";
echo $txt1 . " " . $txt2;
?>
```

The output of the code above will be:

```
Hello World! What a nice day!
```

If we look at the code above you see that we used the concatenation operator two times. This is because we had to insert a third string (a space character), to separate the two strings.

The strlen() function

The strlen() function is used to return the length of a string.

Let's find the length of a string:

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

The output of the code above will be:

```
12
```

The length of a string is often used in loops or other functions, when it is important to know when the string ends. (i.e. in a loop, we would want to stop the loop after the last character in the string).

The strpos() function

The strpos() function is used to search for character within a string.

If a match is found, this function will return the position of the first match. If no match is found, it will return FALSE.

Let's see if we can find the string "world" in our string:

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

The output of the code above will be:

6

The position of the string "world" in our string is position 6. The reason that it is 6 (and not 7), is that the first position in the string is 0, and not 1.

PHP Operators

Arithmetic Operators

Operator	Description	Example	Result
+	Addition	x=2 x+2	4
-	Subtraction	x=2 5-x	3
*	Multiplication	x=4 x*5	20
/	Division	15/5 5/2	3 2.5
%	Modulus (division remainder)	5%2 10%8 10%2	1 2 0
++	Increment	x=5 x++	x=6
--	Decrement	x=5 x--	x=4

Assignment Operators

Operator	Example	Is The Same As
=	x=y	x=y
+=	x+=y	x=x+y
-=	x-=y	x=x-y
*=	x*=y	x=x*y
/=	x/=y	x=x/y

.=	x.=y	x=x.y
%=	x%=y	x=x%y

Comparison Operators

Operator	Description	Example
==	is equal to	5==8 returns false
!=	is not equal	5!=8 returns true
<>	is not equal	5<>8 returns true
>	is greater than	5>8 returns false
<	is less than	5<8 returns true
>=	is greater than or equal to	5>=8 returns false
<=	is less than or equal to	5<=8 returns true

Logical Operators

Operator	Description	Example
&&	and	x=6 y=3 (x < 10 && y > 1) returns true
||	or	x=6 y=3 (x==5 || y==5) returns false
!	not	x=6 y=3 !(x==y) returns true

Conditional statements are used to perform different actions based on different conditions.

Conditional Statements

Very often when you write code, you want to perform different actions for different decisions.

You can use conditional statements in your code to do this.

In PHP we have the following conditional statements:

- **if statement** - use this statement to execute some code only if a specified condition is true
- **if...else statement** - use this statement to execute some code if a condition is true and another code if the condition is false
- **if...elseif....else statement** - use this statement to select one of several blocks of code to be executed
- **switch statement** - use this statement to select one of many blocks of code to be executed

The if Statement

Use the if statement to execute some code only if a specified condition is true.

Syntax

```
if (condition) code to be executed if condition is true;
```

The if...else Statement

Use the if....else statement to execute some code if a condition is true and another code if a condition is false.

Syntax

```
if (condition)
  code to be executed if condition is true;
```

```
else
  code to be executed if condition is false;
```

If more than one line should be executed if a condition is true/false, the lines should be enclosed within curly braces:

The if...elseif....else ***Statement***

Use the if....elseif...else statement to select one of several blocks of code to be executed.

Syntax

```
if (condition)
  code to be executed if condition is true;
elseif (condition)
  code to be executed if condition is true;
else
  code to be executed if condition is false;
```

The PHP Switch Statement

Use the switch statement to select one of many blocks of code to be executed.

Syntax

```
switch (n)
{
case label1:
  code to be executed if n=label1;
  break;
case label2:
  code to be executed if n=label2;
  break;
default:
  code to be executed if n is different from both label1 and label2;
```

```
}
```

This is how it works: First we have a single expression *n* (most often a variable), that is evaluated once. The value of the expression is then compared with the values for each case in the structure. If there is a match, the block of code associated with that case is executed. Use **break** to prevent the code from running into the next case automatically. The default statement is used if no match is found.

What is an Array

A variable is a storage area holding a number or text. The problem is, a variable will hold only one value.

An array is a special variable, which can store multiple values in one single variable.

If you have a list of items (a list of car names, for example), storing the cars in single variables could look like this:

```
$cars1="Saab";
$cars2="Volvo";
$cars3="BMW";
```

However, what if you want to loop through the cars and find a specific one? And what if you had not 3 cars, but 300?

The best solution here is to use an array!

An array can hold all your variable values under a single name. And you can access the values by referring to the array name.

Each element in the array has its own index so that it can be easily accessed.

In PHP, there are three kind of arrays:

- **Numeric array** - An array with a numeric index
- **Associative array** - An array where each ID key is associated with a value
- **Multidimensional array** - An array containing one or more arrays

Numeric Arrays

A numeric array stores each array element with a numeric index.

There are two methods to create a numeric array.

1. In the following example the index are automatically assigned (the index starts at 0):

```
$cars=array("Saab","Volvo","BMW","Toyota");
```

2. In the following example we assign the index manually:

```
$cars[0]="Saab";
$cars[1]="Volvo";
$cars[2]="BMW";
$cars[3]="Toyota";
```

Associative Arrays

An associative array, each ID key is associated with a value.

When storing data about specific named values, a numerical array is not always the best way to do it.

With associative arrays we can use the values as keys and assign values to them.

Example 1

In this example we use an array to assign ages to the different persons:

```
$ages = array("Peter"=>32, "Quagmire"=>30, "Joe"=>34);
```

Example 2

This example is the same as example 1, but shows a different way of creating the array:

```
$ages['Peter'] = "32";
$ages['Quagmire'] = "30";
$ages['Joe'] = "34";
```

PHP Loops

Often when you write code, you want the same block of code to run over and over again in a row. Instead of adding several almost equal lines in a script we can use loops to perform a task like this.

In PHP, we have the following looping statements:

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

The while Loop

The while loop executes a block of code while a condition is true.

Syntax

```
while (condition)
```

```
{
 code to be executed;
}
```

The do...while Statement

The do...while statement will always execute the block of code once, it will then check the condition, and repeat the loop while the condition is true.

Syntax

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

The for Loop

The for loop is used when you know in advance how many times the script should run.

Syntax

```
for (init; condition; increment)
 {
 code to be executed;
 }
```

Parameters:

- *init*: Mostly used to set a counter (but can be any code to be executed once at the beginning of the loop)
- *condition*: Evaluated for each loop iteration. If it evaluates to TRUE, the loop continues. If it evaluates to FALSE, the loop ends.
- *increment*: Mostly used to increment a counter (but can be any code to be executed at

the end of the loop)

Note: Each of the parameters above can be empty, or have multiple expressions (separated by commas).

The foreach Loop

The foreach loop is used to loop through arrays.

Syntax

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

For every loop iteration, the value of the current array element is assigned to $value (and the array pointer is moved by one) - so on the next loop iteration, you'll be looking at the next array value.

PHP Functions

In this chapter we will show you how to create your own functions.

To keep the script from being executed when the page loads, you can put it into a function.

A function will be executed by a call to the function. You may call a function from anywhere within a page.

Create a PHP Function

A function will be executed by a call to the function.

Syntax

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

PHP function guidelines:

- Give the function a name that reflects what the function does
- The function name can start with a letter or underscore (not a number)

PHP Functions - Adding parameters

To add more functionality to a function, we can add parameters. A parameter is just like a variable.

Parameters are specified after the function name, inside the parentheses.

PHP Form Handling

The most important thing to notice when dealing with HTML forms and PHP is that any form element in an HTML page will automatically be available to your PHP scripts.

Form Validation

User input should be validated on the browser whenever possible (by client scripts). Browser validation is faster and reduces the server load.

You should consider server validation if the user input will be inserted into a database. A good way to validate a form on the server is to post the form to itself, instead of jumping to a different page. The user will then get the error messages on the same page as the form. This makes it easier to discover the error.

The $_GET Function

The built-in $_GET function is used to collect values from a form sent with method="get".

Information sent from a form with the GET method is visible to everyone (it will be displayed in the browser's address bar) and has limits on the amount of information to send (max. 100 characters).

Example

```
<form action="welcome.php" method="get">
Name: <input type="text" name="fname" />
Age: <input type="text" name="age" />
<input type="submit" />
</form>
```

When the user clicks the "Submit" button, the URL sent to the server could look something like this:

```
http://www.w3schools.com/welcome.php?fname=Peter&age=37
```

The "welcome.php" file can now use the $_GET function to collect form data (the names of the form fields will automatically be the keys in the $_GET array):

```
Welcome <?php echo $_GET["fname"]; ?>.<br />
You are <?php echo $_GET["age"]; ?> years old!
```

When to use method="get"?

When using method="get" in HTML forms, all variable names and values are displayed in the URL.

Note: This method should not be used when sending passwords or other sensitive information!

However, because the variables are displayed in the URL, it is possible to bookmark the page. This can be useful in some cases.

Note: The get method is not suitable for large variable values; the value cannot exceed 100 characters.

The built-in $_POST function is used to collect values in a form with method="post".

The $_POST Function

The built-in $_POST function is used to collect values from a form sent with method="post".

Information sent from a form with the POST method is invisible to others and has no limits on the amount of information to send.

Note: However, there is an 8 Mb max size for the POST method, by default (can be changed by setting the post_max_size in the php.ini file).

Example

```
<form action="welcome.php" method="post">
Name: <input type="text" name="fname" />
Age: <input type="text" name="age" />
<input type="submit" />
</form>
```

When the user clicks the "Submit" button, the URL will look like this:

```
http://www.w3schools.com/welcome.php
```

The "welcome.php" file can now use the $_POST function to collect form data (the names of the form fields will automatically be the keys in the $_POST array):

```
Welcome <?php echo $_POST["fname"]; ?>!<br />
You are <?php echo $_POST["age"]; ?> years old.
```

When to use method="post"

Information sent from a form with the POST method is invisible to others and has no limits on the amount of information to send.

However, because the variables are not displayed in the URL, it is not possible to bookmark the page.

The PHP $_REQUEST Function

The PHP built-in $_REQUEST function contains the contents of both $_GET, $_POST, and $_COOKIE.

The $_REQUEST function can be used to collect form data sent with both the GET and POST methods.

Example

```
Welcome <?php echo $_REQUEST["fname"]; ?>!<br />
You are <?php echo $_REQUEST["age"]; ?> years old.
```

EX. NO.: 10a SIMPLE PHP PROGRAMS

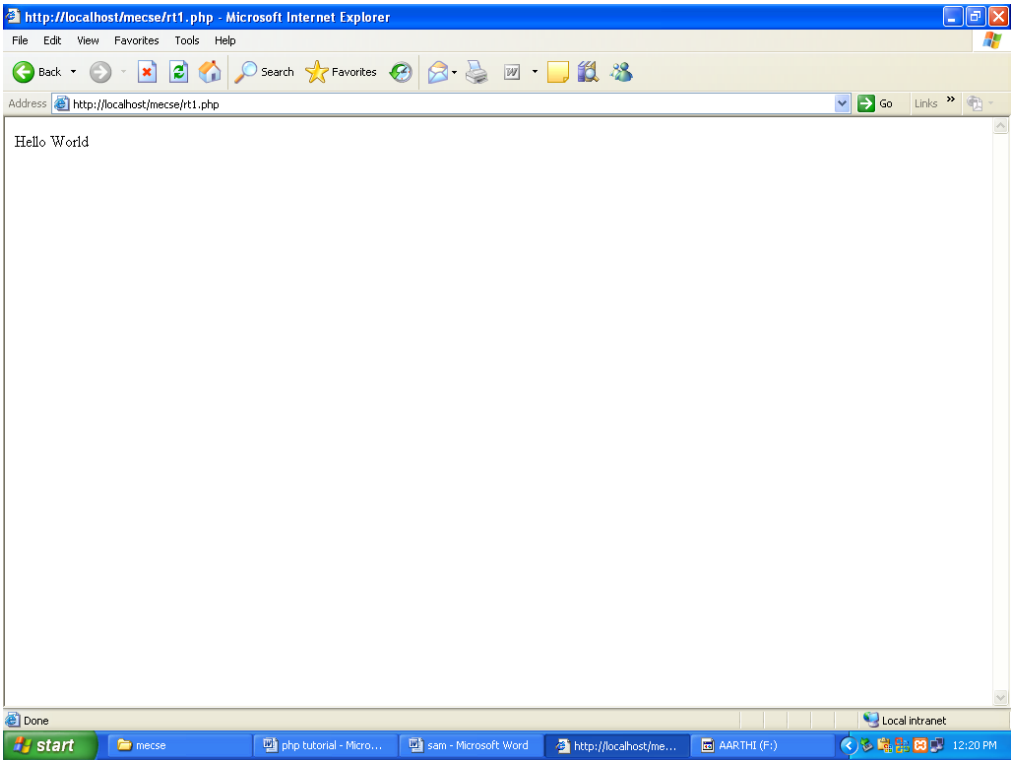
AIM:

To write a program in php for conditional statements, looping statements, functions, form handling and database connection.

PROGRAM:

```
<html>
<body>

<?php
echo "Hello World";
?>

</body>
</html>
```

OUTPUT:



Php using conditional statements

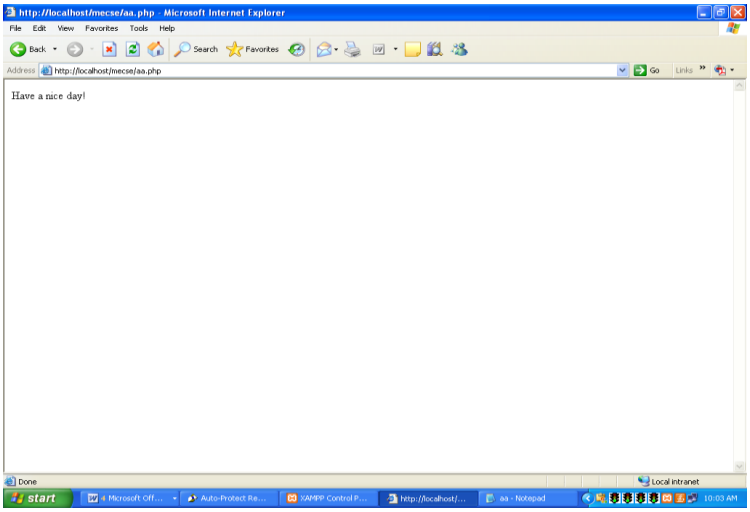
If statement

```
<html>
<body>
<?php
$d=date("D");
if ($d=="Fri") echo "Have a nice weekend!";
?>
</body>
</html>
```

If else

```
<html>
<body>
<?php
$d=date("D");
if ($d=="Fri")
  echo "Have a nice weekend!";
else
  echo "Have a nice day!";
?>
</body>
</html>
```

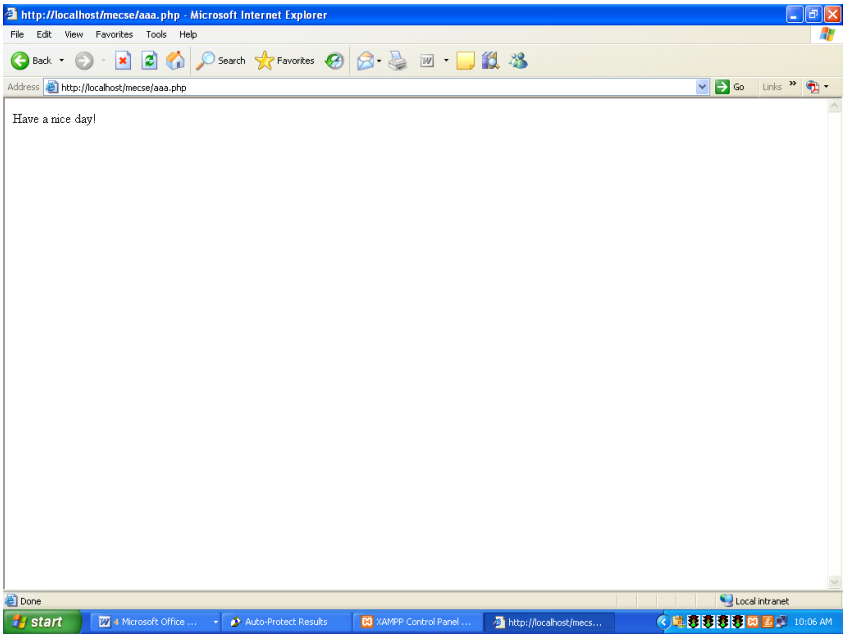
OUTPUT:



If elseif else

```
<html>
<body>
<?php
$d=date("D");
if ($d=="Fri")
  echo "Have a nice weekend!";
elseif ($d=="Sun")
  echo "Have a nice Sunday!";
else
  echo "Have a nice day!";
?>
</body>
</html>
```

OUTPUT:

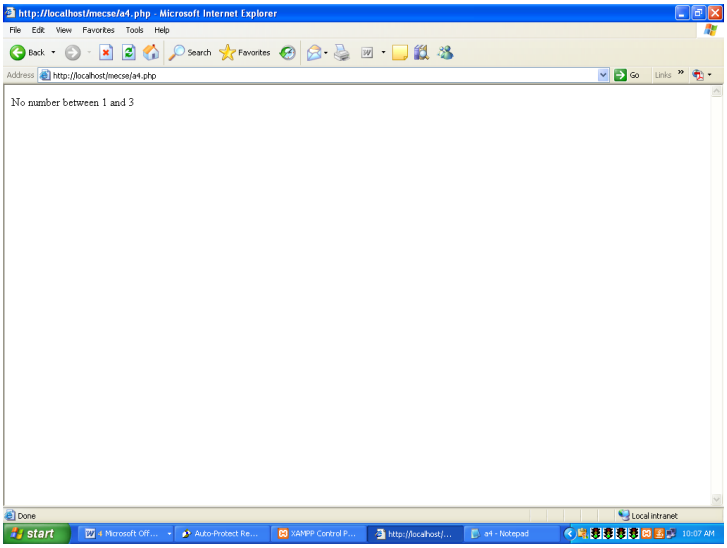


Switch

```
<html>
<body>

<?php
switch ($x)
{
case 1:
  echo "Number 1";
  break;
case 2:
  echo "Number 2";
  break;
case 3:
  echo "Number 3";
  break;
default:
  echo "No number between 1 and 3";
}
?>
```

```
</body>
</html>
```

OUTPUT:



Php program using loops

While loop

```
<html>
<body>

<?php
$i=1;
while($i<=5)
  {
```

```
  echo "The number is " . $i . "<br />";
  $i++;
  }
?>

</body>
</html>
```

OUTPUT:

The number is 1
The number is 2
The number is 3
The number is 4
The number is 5

Do while

```
<html>
<body>

<?php
$i=1;
do
  {
  $i++;
  echo "The number is " . $i . "<br />";
  }
while ($i<=5);
?>

</body>
</html>
```

OUTPUT:

The number is 1
The number is 2
The number is 3
The number is 4
The number is 5

For Loop

```
<html>
<body>

<?php
for ($i=1; $i<=5; $i++)
  {
  echo "The number is " . $i . "<br />";
  }
?>

</body>
</html>
```

Output:

The number is 2
The number is 3
The number is 4
The number is 5
The number is 6

Foreach loop

```
<html>
<body>
<?php
$x=array("one","two","three");
foreach ($x as $value)
  {
  echo $value . "<br />";
  }
?>

</body>
```

OUTPUT:

```
one
two
three
```

Program for php form handling

Form.php

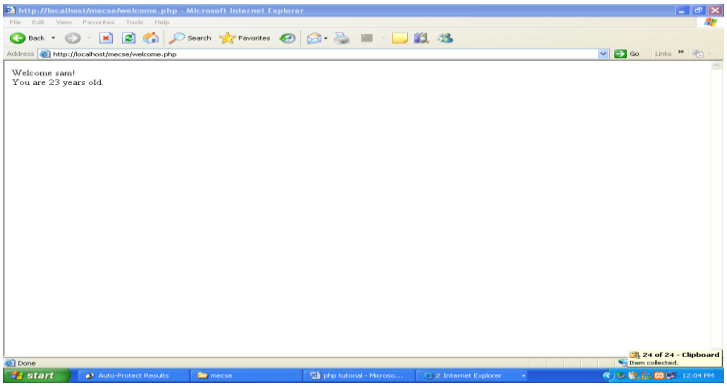
```
<html>
<body>
<form action="welcome.php" method="post">
Name: <input type="text" name="fname" />
Age: <input type="text" name="age" />
<input type="submit" />
</form>
```

```
</body>
</html>
```

Welcome.php

```
<html>
<body>

Welcome <?php echo $_POST["fname"]; ?>!<br />
You are <?php echo $_POST["age"]; ?> years old.

</body>
</html>
```

OUTPUT:



EX. NO.: 10b PHP PROGRAM TO CONNECT WITH DATABASE

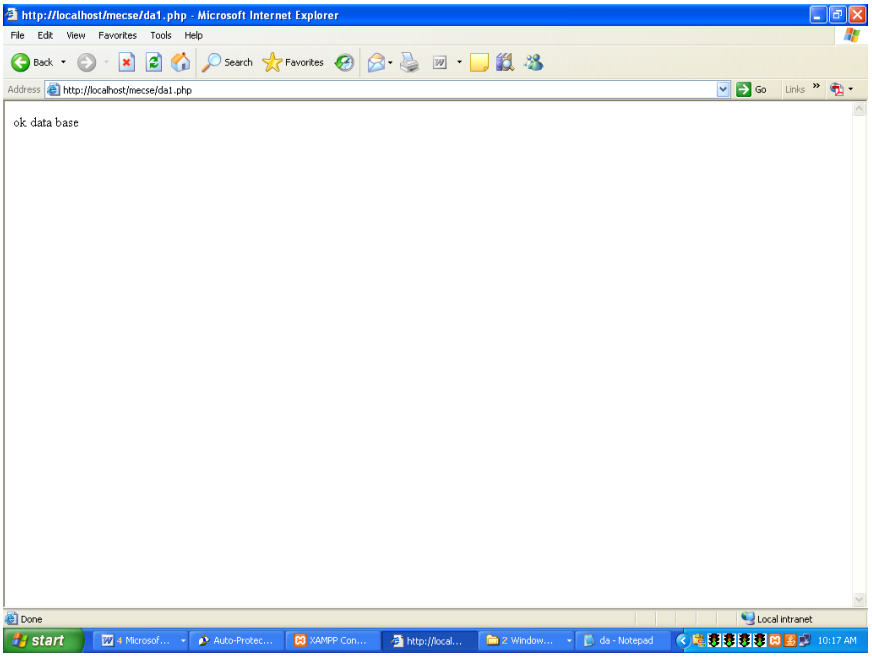
AIM:

To write a PHP program for connecting with a database, creating a table and retrieving the data.

PROGRAM:

```
<?php
$con = mysql_connect("localhost","root","");
if (!$con)
 {
 die('Could not connect: ' . mysql_error());
 }
else
 {
  echo "ok data base";
 }
mysql_close($con);
?>
```

OUTPUT:

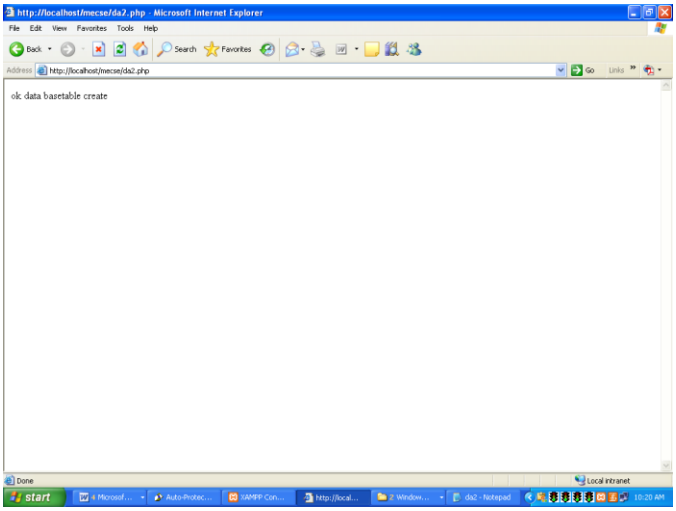


Php program to create a table in the database

```
<?php
```

```
$con = mysql_connect("localhost","root","");
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }
else
 {
   echo "ok data base";
  }
mysql_select_db("emp", $con);

$sql = "CREATE TABLE Per
(
FirstName varchar(15),
LastName varchar(15),
Age int
)";
echo "table create";
// Execute query
mysql_query($sql,$con);
mysql_close($con);

?>
```

OUTPUT:

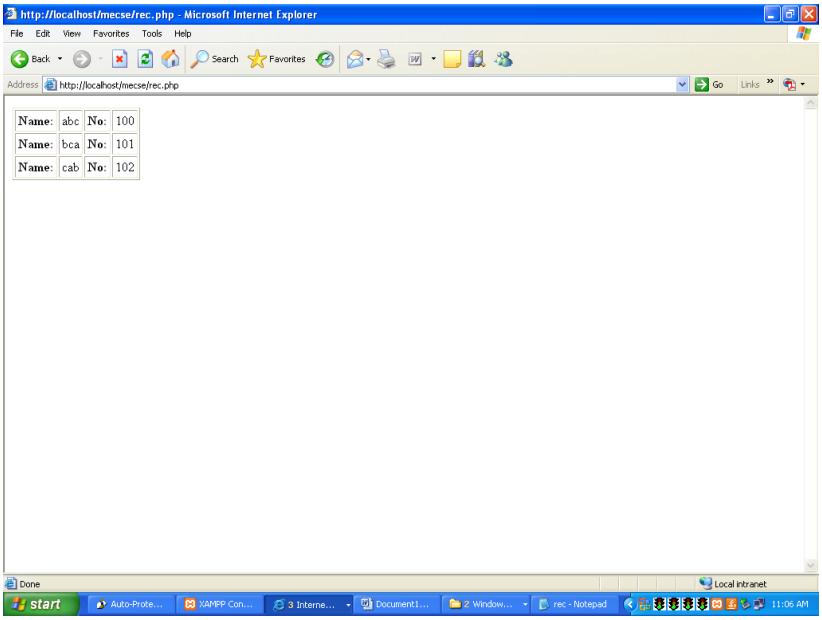


Php program to retrieve data from the table in database

```
<?php

// Connects to your Database

mysql_connect("localhost", "root", "") or die(mysql_error());
mysql_select_db("emp") or die(mysql_error());
$data = mysql_query("SELECT * FROM emp")
or die(mysql_error());
Print "<table border cellpadding=3>";
while($info = mysql_fetch_array( $data ))

{

  Print "<tr>";
Print "<th>Name:</th> <td>".$info['name'] . "</td> ";
Print "<th>No:</th> <td>".$info['no'] . " </td></tr>";

}
```

```
 Print "</table>";

?>
```

OUTPUT:



RESULT:

Thus the PHP program for connecting with a database, creating a table and retrieving the data was executed successfully.