
Lecture 1

Contents: Introduction; Editors for writing PHP programs; Installing notepad++ editor; Installing XAMPP Server; Writing the first program; Executing program; PHP file; Advantages of PHP; Features of PHP; Purposes of PHP; Comments; Exercises

1.1 Introduction

PHP is an HTML-embedded, server-side scripting language designed for web development. It is also used as a general-purpose programming language. It was created by Rasmus Lerdorf in 1994 and appeared in the market in 1995. It is used for making dynamic and interactive web pages. We shall use XAMPP software to perform experiments with PHP. Current version of PHP is 8.1.8, as released on 7th July, 2022.

1.2 Editors for writing PHP programs

There are many editors by which a PHP program could be developed. A few names are given as follows:

- Atom
- Notepad ++
- Sublime Text
- Visual Studio Code
- Adobe Dreamweaver CC
- Froala
- CoffeeCup

We shall take notepad++ as an editor for coding PHP programs. notepad also serves as an editor.

notepad++ is a free editor and it supports several languages. Running in the MS Windows environment, its use is governed by GNU General Public License.

Based on the powerful editing component Scintilla, notepad++ is written in C++ and uses pure Win32 API and STL which ensures a higher execution speed and smaller program size.

NOTE: GNU stands for GNU's Not Unix; API has full form application programming interface; STL is a file format native to the stereolithography CAD software created by 3D Systems. STL has several acronyms such as *standard triangle language* and *standard tessellation language*.

1.3 Installing notepad++ editor

It is a free software. Visit website <https://notepad-plus-plus.org/downloads/> to download notepad++ software. Otherwise, you can give a search using “download notepad++” using Google

search. Follow the instructions to install the software and choose option to create a shortcut at the desktop.

1.4 Installing XAMPP Server

XAMPP contains Apache, MariaDB, PHP and Perl, where the letter X indicates that XAMPP is a cross-platform software. MariaDB is known as MySQL earlier. MySQL was replaced with MariaDB on 19th October, 2015. The current version of XAMPP is 8.1.6. It is released on 16th May, 2022.

To download the software, we give a search on Google using keyword “xampp download on windows 11”. Follow the first link as it appears after search.

<https://www.apachefriends.org/download.html>

Download the highlighted version of PHP and follow as directed. See Fig. 1.1. One can see the following YouTube video for installing XAMPP software.

<https://www.youtube.com/watch?v=VQpATELDSEI>

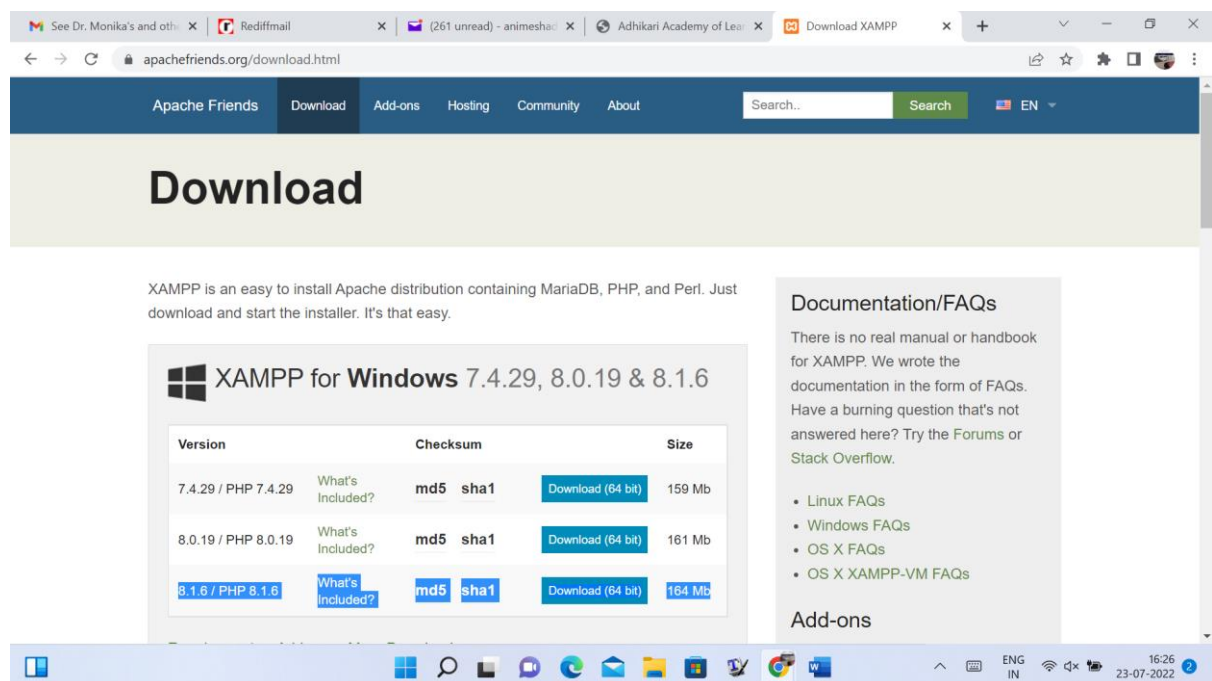


Figure 1.1: Screen to download XAMPP for Windows

We create a folder `OurPHP` under `C:\xampp\htdocs`, and then create a folder `Lecture1`, `Lecture2`, . . . , `Lecture40` under `OurPHP`. We save the program `first.php`, as given in Section 1.4, into `C:\xampp\htdocs\OurPHP\Lecture1`.

1.4 Writing first program

A PHP script is executed on a server, and the plain HTML result is sent back to the browser. A PHP script can be placed anywhere in the document, and has extension `.php`. Our first program is named as `first.php`. See Fig. 1.2.

```
<html>
<body>
<h1>First PHP page</h1>
<?php
echo "Monday is the first working day of a week.";
?>
</body>
</html>
```

Figure 1.2: First program of PHP to display a message

A PHP script starts with `<?php` and ends with `?>`. An example program is given in Fig. 1.2. The output (screenshot) of the program is given in Fig. 1.3.

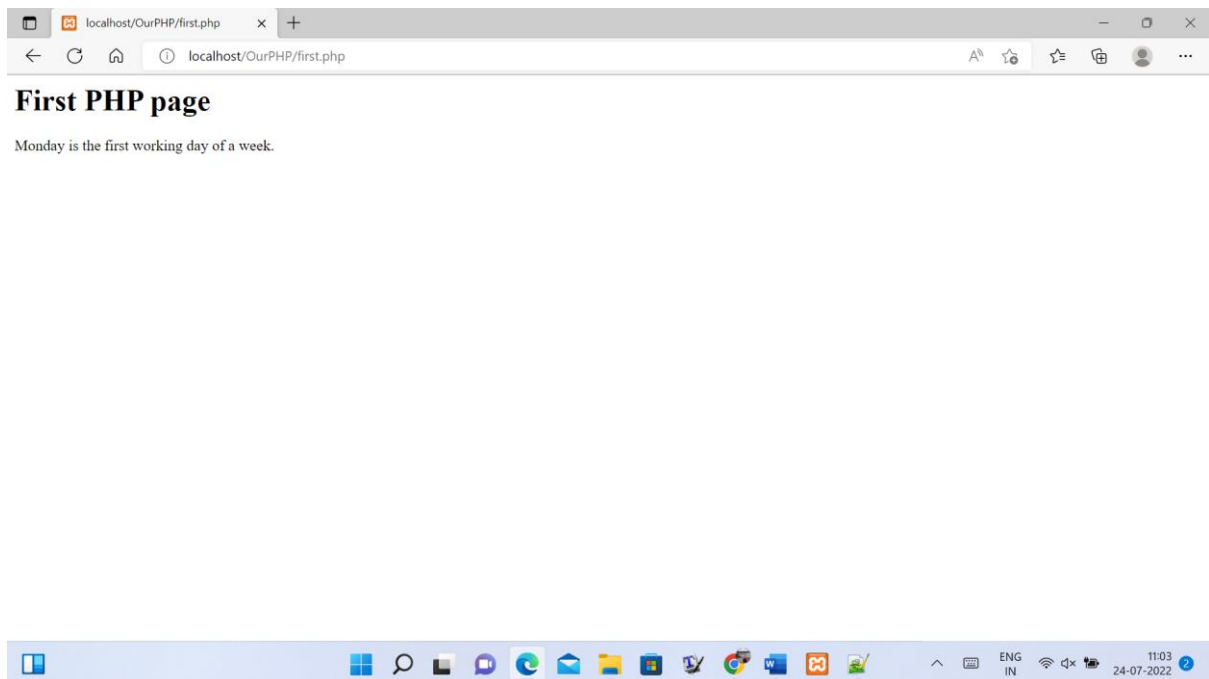


Figure 1.3: The output of the program given in Fig. 1.2

1.5 Executing program

Suppose that we use Microsoft Edge browser. Type `localhost/OurPHP/Lecture1/` in the address bar of Edge browser. Then click `first.php`. Otherwise, type `localhost/OurPHP/Lecture1/first.php` in the address bar of browser and press Enter key.

1.6 PHP file

A PHP file has extension “.php”. It can contain text, HTML, CSS, JavaScript, and PHP code. It is executed on the server, and the result is returned to the browser as plain HTML.

1.6 Advantages of PHP

There are numerous advantages of PHP.

Lecture 2

Contents: Case sensitivity; \$ and \$\$ variables; Expression evaluation; Scope of a variable; Exercises

2.1 Case sensitivity

Keywords, classes, functions, and user-defined functions are not case-sensitive. See a program in Fig. 2.1. `echo` statement can be used to display output.

```
<html>
<body>
<?php
ECHO "<h1>Today is Sunday!</h1><br>";
Echo "<h2>Tomorrow is Monday!</h2><br>";
echo ("Day after tomorrow is Tuesday!<br>");
?>
</body>
</html>
```

Figure 2.1: Program to show that keywords are case-insensitive

The output (screenshot) of the program is given in Fig. 2.2.

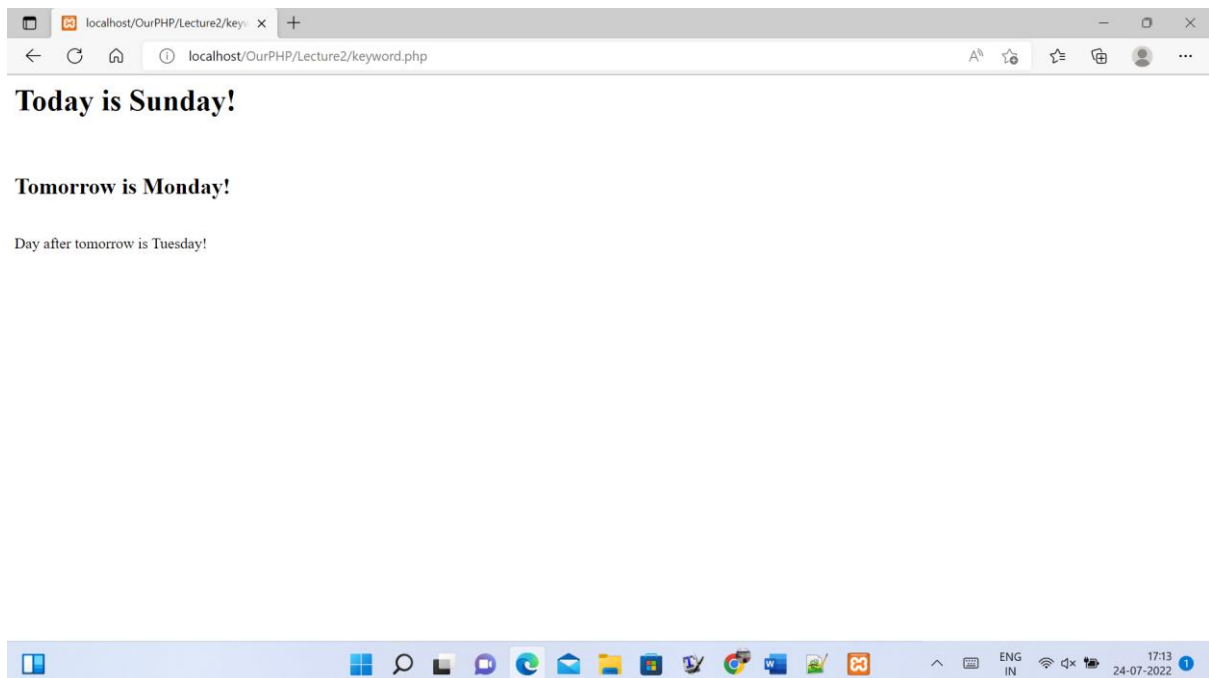


Figure 2.2: The output of the program given in Fig. 2.1

Note that keyword `echo` can be used with or without bracket.

But, all the variables declared in the script are case-sensitive. A normal variable name starts with a \$ symbol. Variables \$mobile, \$Mobile and \$MOBILE in the program in Fig. 2.3 are not the same.

```
<html>
<body>
<?php
$mobile = "Galaxy";
echo "My mobile is Samsung " . $mobile . "<br>";
echo "My brother's mobile is Samsung " . $Mobile . "<br>";
echo "My sister's mobile is Samsung " . $MOBILE . "<br>";
?>
</body>
</html>
```

Figure 2.3: Program to show that variable names are case-sensitive

There are errors in displaying the contents of \$Mobile and \$MOBILE as they are not defined. The output (screenshot) of the program is given in Fig. 2.4.

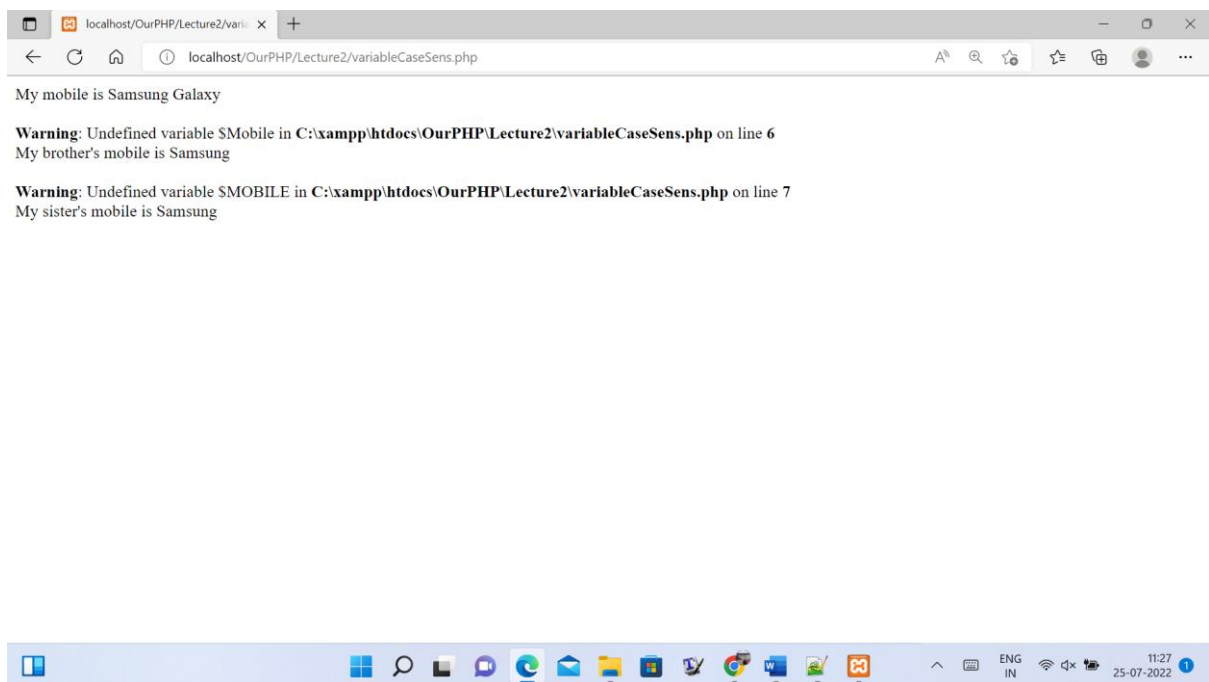


Figure 2.4: The output of the program given in Fig. 2.3

2.2 \$ and \$\$ variables

The \$x is a normal variable with the name x that stores a value like string, integer, and float.

The \$\$x is a reference variable that stores the value of the \$variable inside it. See a program in Fig. 2.5. The output of the program is shown in Fig. 2.6.

```
<?php
$x = "x123";
$$x = 10;
echo $x."<br/>";
echo $$x."<br/>";
echo $x123;
?>
```

Figure 2.5: A program having a reference variable

One can even execute only PHP script as shown in Fig. 2.5. Note that the last `echo` statement displays the content of variable `$x123`, i.e., the content of content of `$x`.

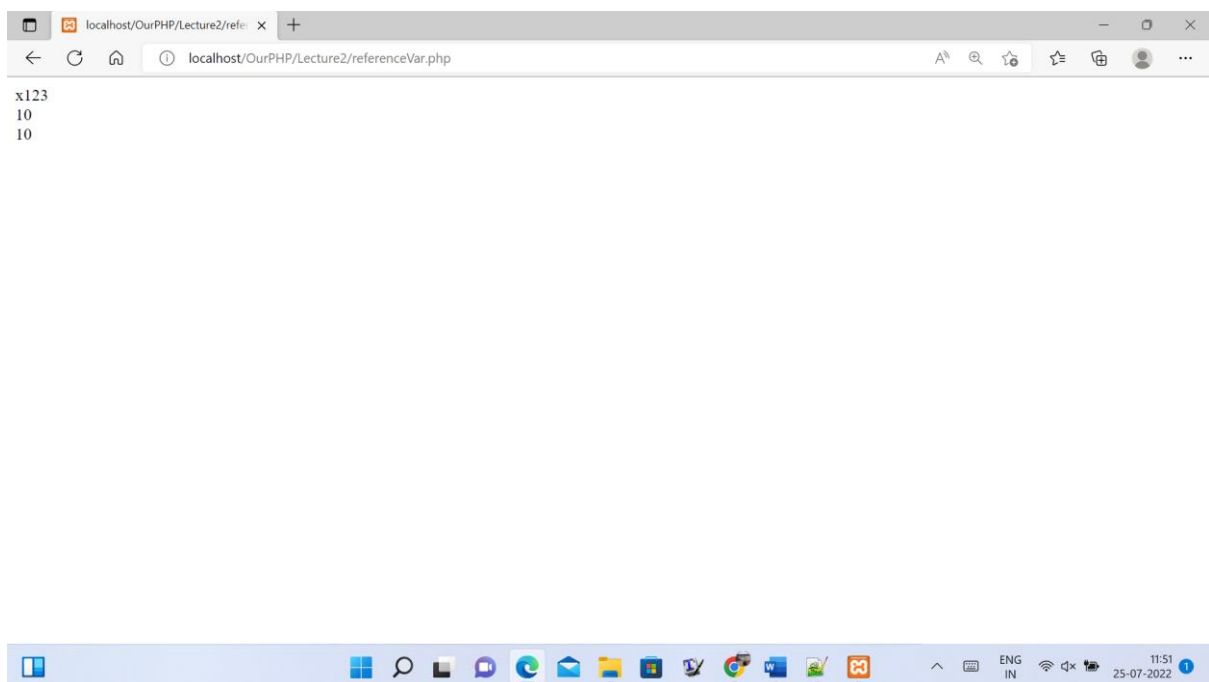


Figure 2.6: The output of the program given in Fig. 2.5

2.3 Expression evaluation

We shall consider here a program to evaluate a simple expression and display the result. See the program in Fig. 2.7. It outputs 40.

```
<?php
$x = 15;
$y = 4;
echo $x + 4* $y + 9;
?>
```

Figure 2.7: Program to evaluate an expression and display the result

2.3 Scope of a variable

Lecture 3

Contents: `print` statement; Data types; String functions; Exercises

3.1 `print` statement

`print` statement can also be used as an output statement. See a program in Fig. 3.1. There are some differences between `echo` and `print` statements.

- `echo` statement has no return value, but the `print` statement has a return value of 1.
- `echo` statement can take multiple parameters; but such usage is rare. `print` statement can take one argument.
- `echo` statement is little bit faster than `print` statement.

```
<?php
$x1 = "Adhikari Academy";
$x2 = "this academy";
$x3 = 10;
$x4 = 20;
print "<h2>" . $x1 . "</h2>";
print "Learn PHP at " . $x2 . "<br>";
print "Total = " . $x3 + $x4;
?>
```

Figure 3.1: Program using `print` statement

The output (screenshot) of program is shown in Fig. 3.2.

3.2 Data types

There are different data types in PHP: String, Integer, Float, Boolean, Array, Object, NULL and Resource. We consider a few programs using some of these data types.

A string is any text inside either single quotes or double quotes. See a program in Fig. 3.3.

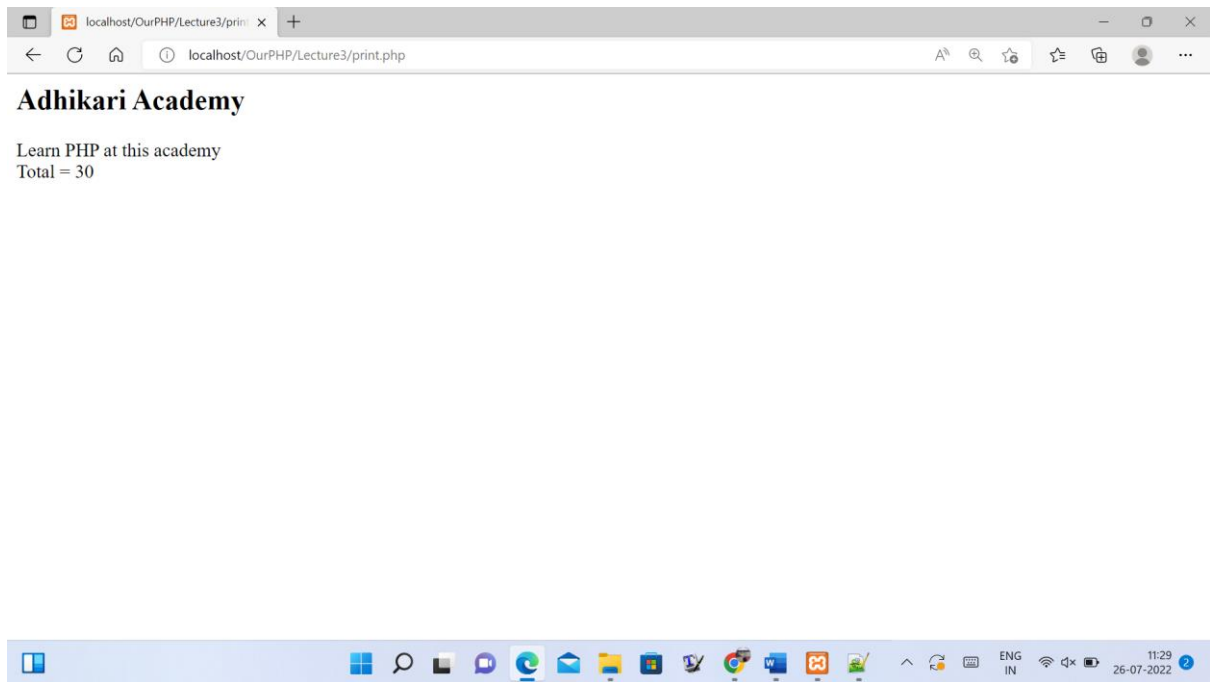


Figure 3.2: The output of program given in Fig. 3.1

```
<?php
$x = 'Hello readers!';
$y = "Read today's Times of India";
echo $x;
echo "<br>";
echo $y;
echo "<br>";
var_dump($x);
?>
```

Figure 3.3: Program with strings

`var_dump()` function returns the data type and value of variable. The output (screenshot) of the program is shown in Fig. 3.4.

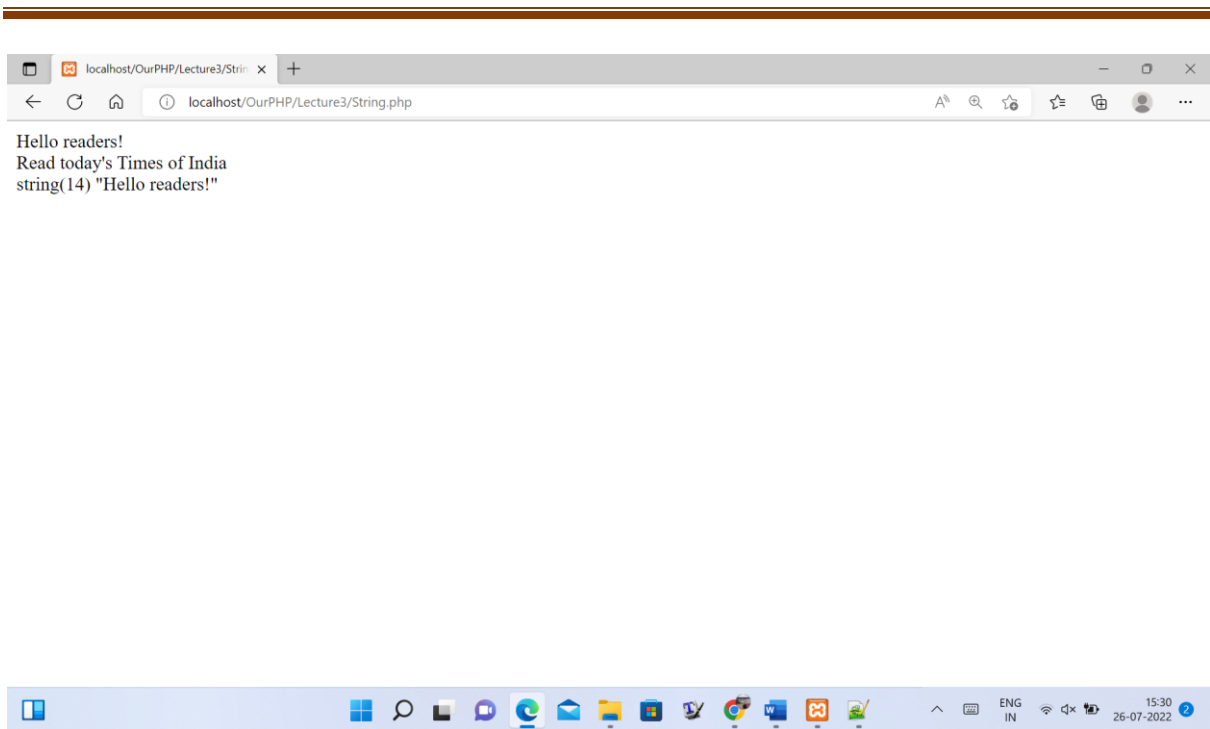


Figure 3.4: The output of program given in Fig. 3.3

An array stores multiple values in one single variable. Here `$fruits` is an array. `var_dump()` function returns the data type and value. An example program is shown in Fig. 3.5.

```
<?php
$fruits = array("Apple","Banana","Mango", "Grapes");
var_dump($fruits);
?>
```

Figure 3.5: Program with an array

`var_dump()` function returns the data type and value. The output (screenshot) of the program is shown in Fig. 3.6.