DT228/2 Web Development

Introduction to Hypertext Preprocessor (PHP)

Introduction to PHP

- PHP – A technology for developing web pages that include dynamic content
- “Equivalent” of Microsoft’s Active Server Pages technology
- Pages have a file extension of .PHP
- PHPs enable web developers to enhance HTML code by adding special PHP elements that are processed by the server
- PHP is a free software released under the PHP License
- PHP Scripts are executed on the server

What is a PHP file

- PHP stands for PHP: Hypertext Preprocessor
- PHP supports many databases (MySQL, Informix, Oracle, Sybase, Solid, PostgreSQL, Generic ODBC, etc.)
- PHP is an open source software (OSS)
- This means its free to use and isn‟t being controlled by a single entity.
- It is being developed by a group of developers
- PHP syntax resembles that of JavaScript and ActionScript in different ways.

What can PHP do

- PHP can generate dynamic page content
- PHP can create, open, read, write, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can restrict users to access some pages on your website
- PHP can encrypt data

What can PHP do

- PHP files are returned to the browser as plain HTML.
- PHP can be written in any text editor.
- PHP script will be located inside special tags, much like JavaScript

  e.g. <?php //php script here ?>
- PHP code can be located any where in the page.
- PHP is case sensitive.
- Every variable in PHP will have the $ symbol as a prefix e.g. $myName =“John”;
- Every line of code MUST be terminated with a ; symbol

What is a MySQL

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

PHP + MySQL

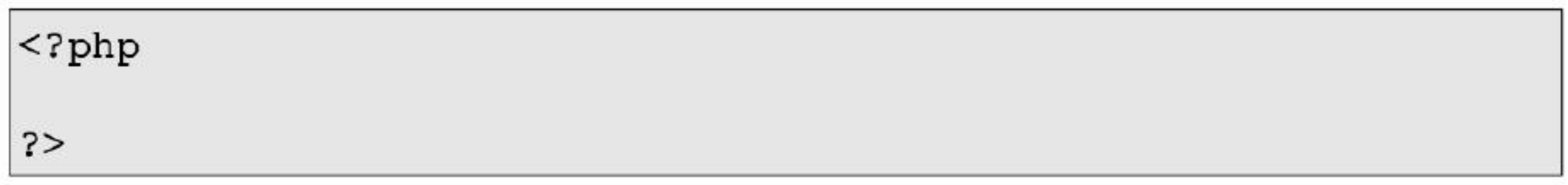
PHP combined with MySQL is cross-platform (means that you can develop in Windows and serve on a Unix platform).

Basic PHP Syntax

You cannot view the PHP source code by selecting "View source" in the browser - you will only see the output from the PHP file, which is plain HTML.

A PHP scripting block always starts with <?php and ends with ?>.

A PHP scripting block can be placed anywhere in the document.

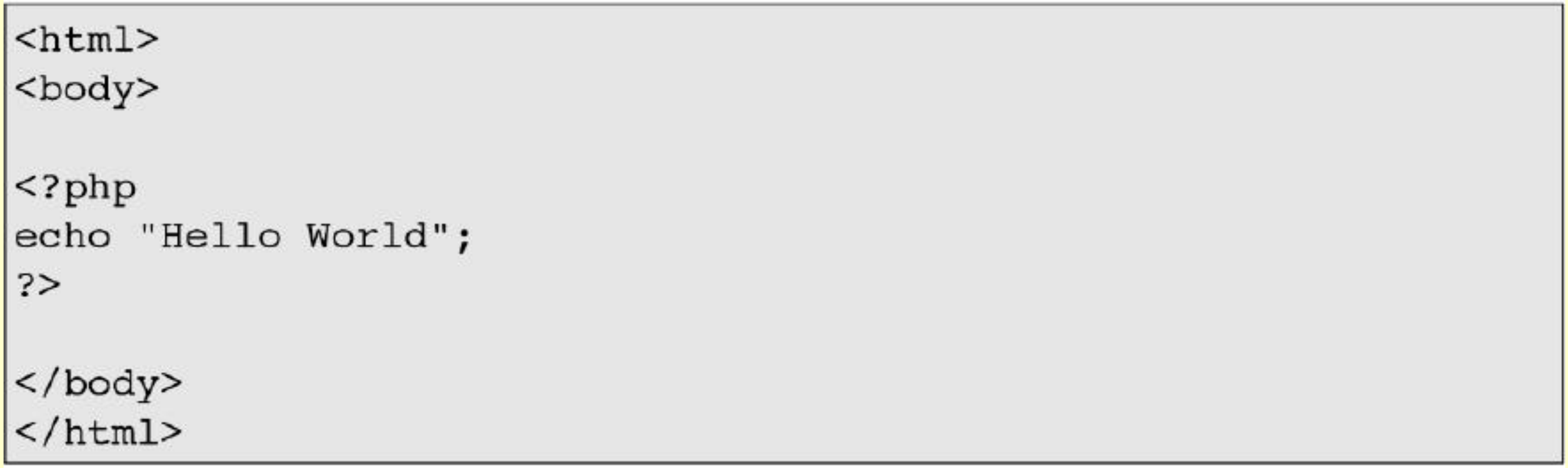


```
<?php

?>
```

Basic PHP Syntax

A PHP file normally contains HTML tags, just like an HTML file, and some PHP scripting code.

Below, we have an example of a simple PHP script which sends the text "Hello World"to the browser:



```
<html>
<body>

<?php
echo "Hello World";
?>

</body>
</html>
```

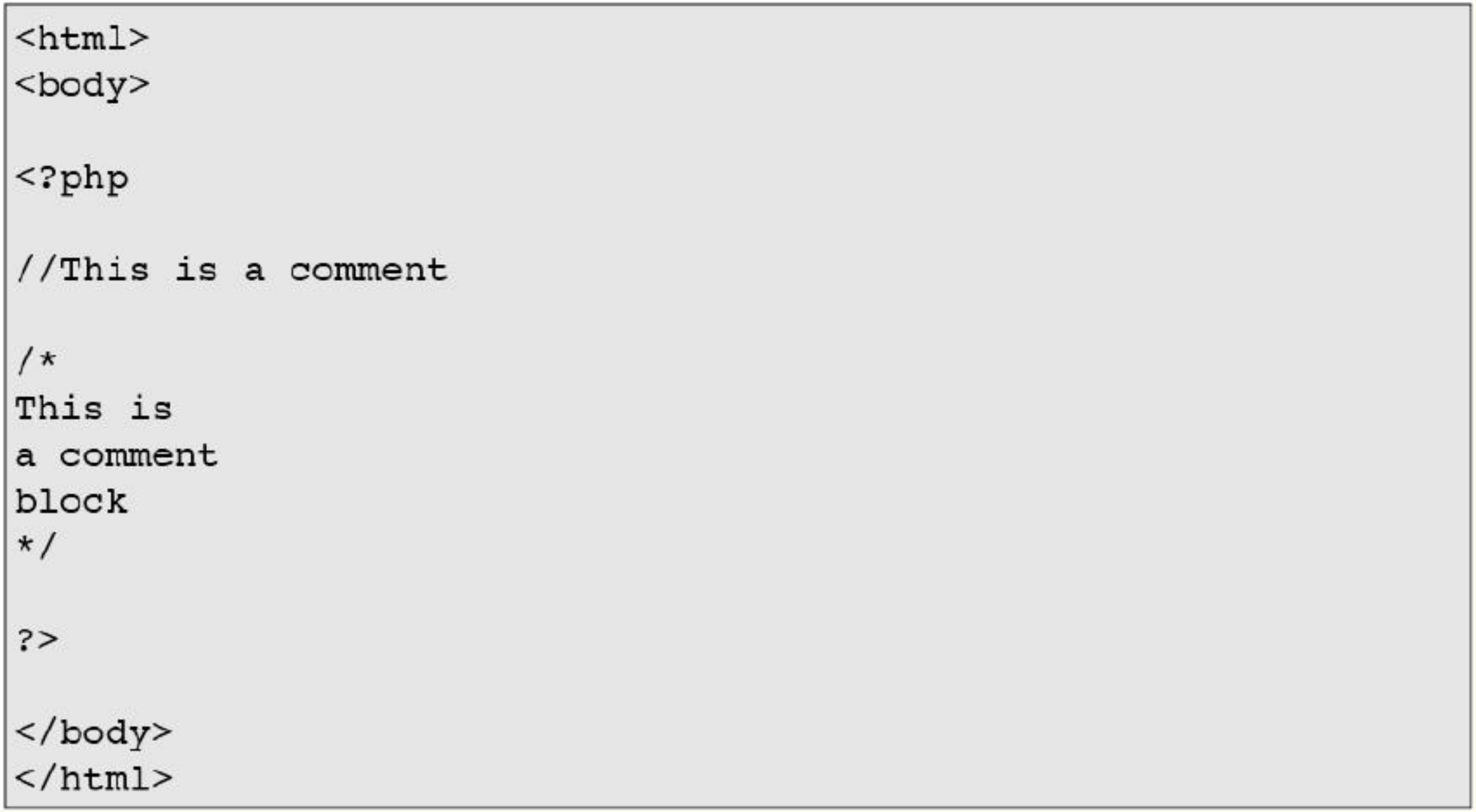
Each code line in PHP must end with a semicolon. The semicolon is a separator and is used to distinguish one set of instructions from another.

There are two basic statements to output text with PHP: echo and print.

In the example above we have used the echo statement to output the text "Hello World".

Comments in PHP

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



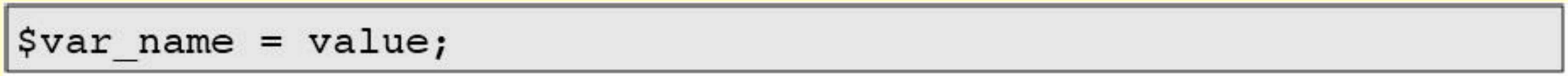
```
<html>
<body>

<?php

//This is a comment

/*
This is
a comment
block
*/

?>

</body>
</html>
```

PHP Variables

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

When a variable is set it can be used over and over again in your script

All variables in PHP start with a $ sign symbol. The correct way of setting a variable in PHP:

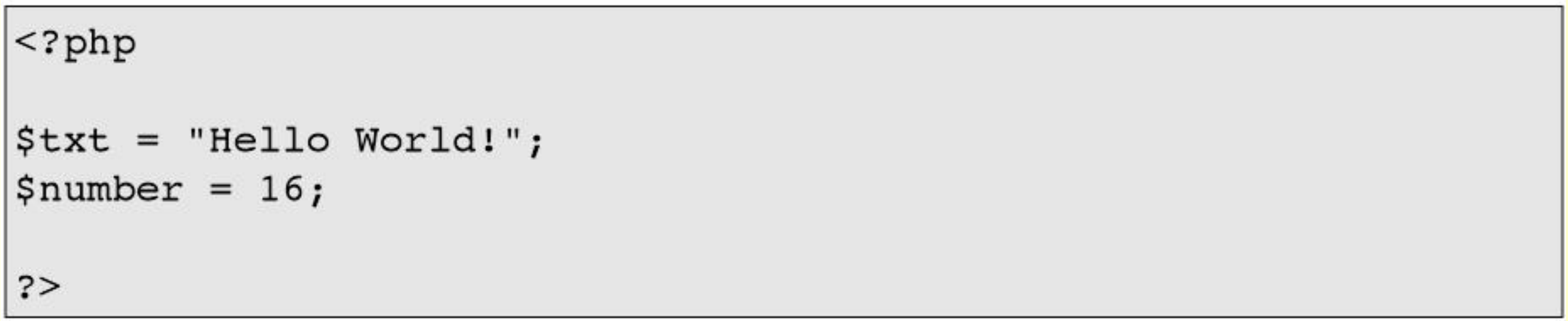


```
$var_name = value;
```

PHP Variables

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

Let's try creating a variable with a string, and a variable with a number:



```
<?php

$txt = "Hello World!";
$number = 16;

?>
```

PHP is a Loosely Typed Language

In PHP a variable does not need to be declared before being set.

In the previous example, 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 how they are set.

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.

Variable Naming Rules

- A variable name must start with a letter or an underscore "_“
- A variable name can only contain alpha-numeric characters and underscores (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 underscore ($my_string), or with capitalization ($myString)

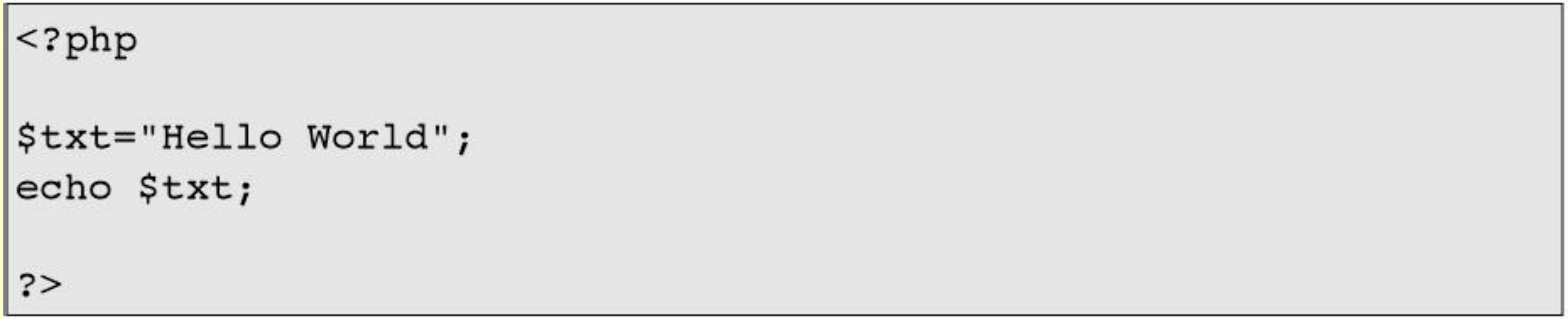
Strings In PHP

String variables are used for values that contains character strings.

We are going to look at some of 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 string "Hello World" to a string variable called $txt:



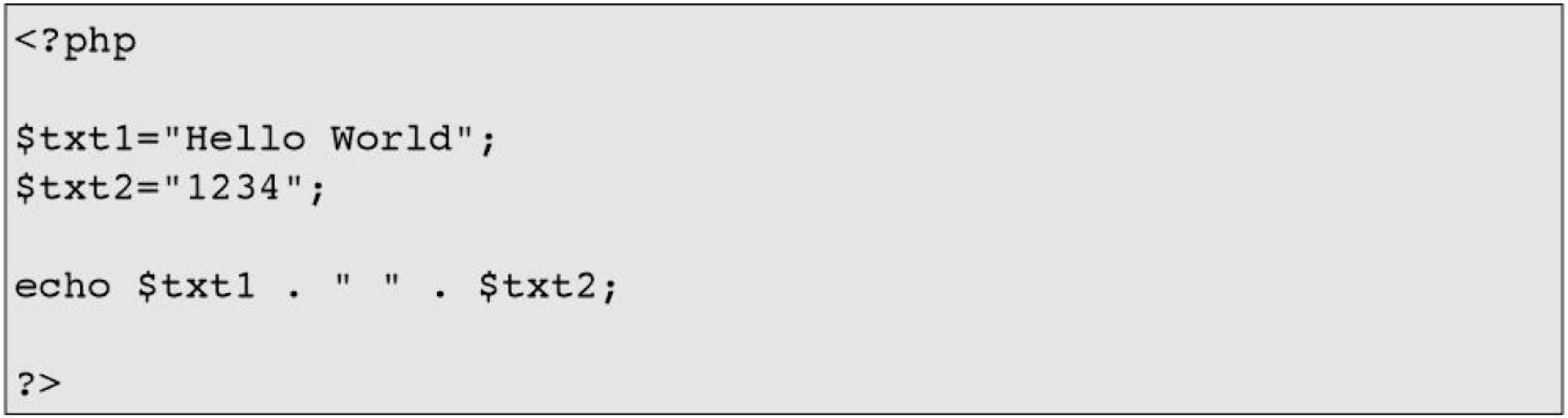
```
<?php

$txt="Hello World";
echo $txt;

?>
```

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 variables together, use the dot (.) operator:

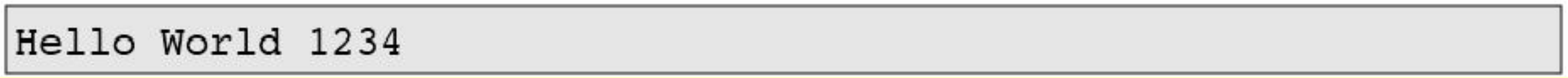


```
<?php

$txt1="Hello World";
$txt2="1234";

echo $txt1 . " " . $txt2;

?>
```

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. Between the two string variables we added a string with a single character, an empty space, to separate the two variables.

Strings In PHP

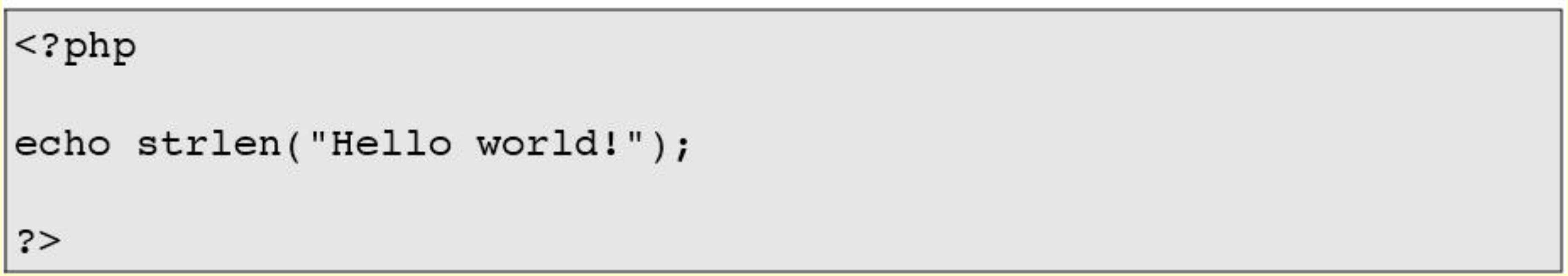
The output of the code will be:



```
Hello World 1234
```

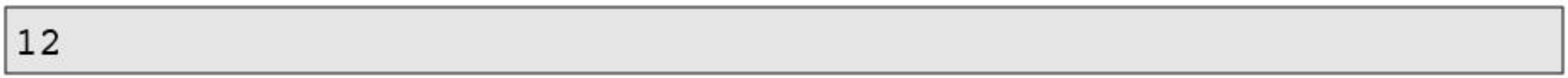
Using the strlen() function

The strlen() function is used to find the length of a string. Let's find the length of our string "Hello world!":



```
<?php

echo strlen("Hello world!");

?>
```

The output of the code above will be:

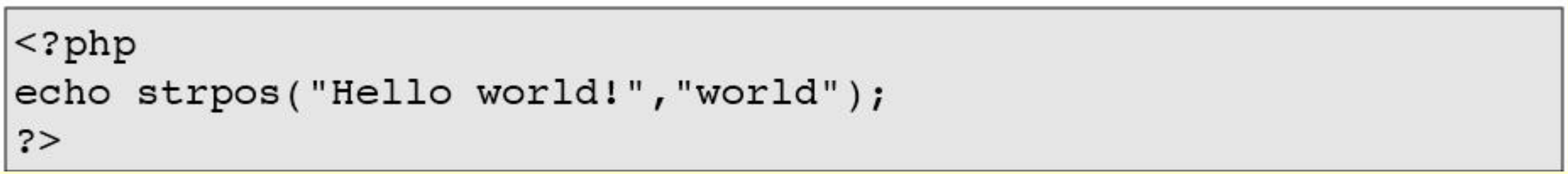


```
12
```

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)

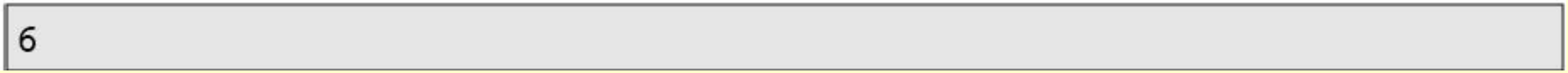
Using the strpos() function

The strpos() function is used to search for a string or character within a string.
If a match is found in the string, 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
```

As you see 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.

Running PHP pages

One way to develop and run PHP pages, need:

-If you wish to install full XAMPP (116mb) in your own computer, this is the link

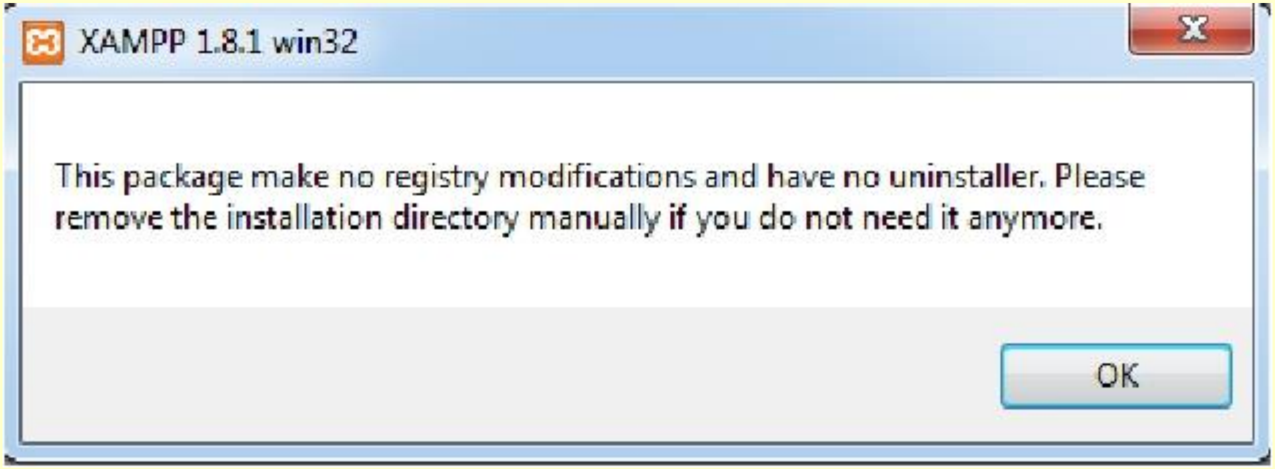
https://www.apachefriends.org/download.html

-If you wish to run PHP and MySQL in your Mac, you can also install MAMP, this is the link

http://www.mamp.info/en/index.html

Install XAMPP

A very useful information for “uninstall” XAMPP

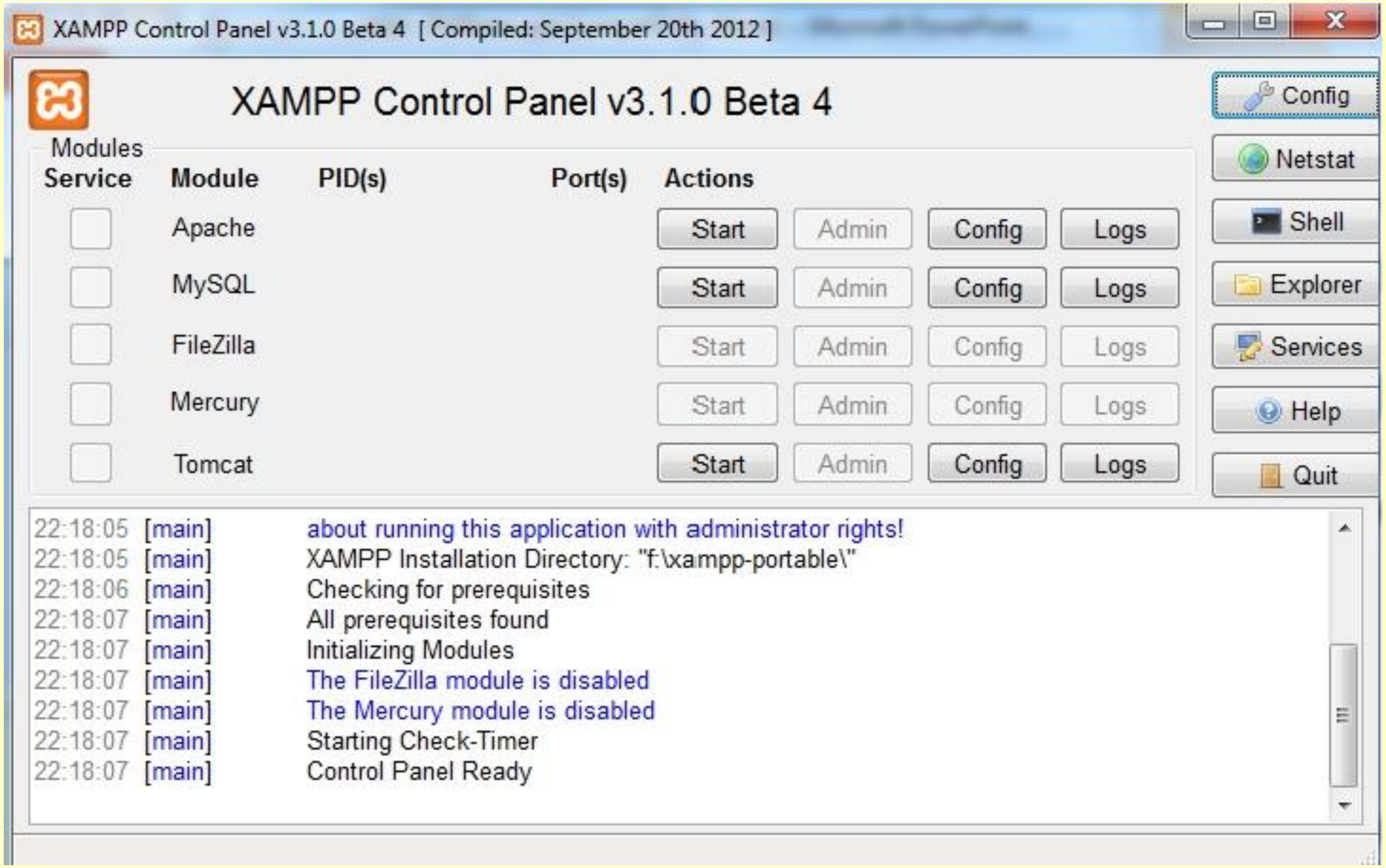


This package make no registry modifications and have no uninstaller. Please remove the installation directory manually if you do not need it anymore.

Once the XAMPP is installed, the Apache, MySQL and PHP are ready to use.

Start, stop, test XAMPP servers

- The universal control center is the "XAMPP Control Panel". It is started with: \xampp\xampp-control.exe



```
22:18:05  [main]        about running this application with administrator rights!
22:18:05  [main]        XAMPP Installation Directory: "f:\xampp-portable\"
22:18:06  [main]        Checking for prerequisites
22:18:07  [main]        All prerequisites found
22:18:07  [main]        Initializing Modules
22:18:07  [main]        The FileZilla module is disabled
22:18:07  [main]        The Mercury module is disabled
22:18:07  [main]        Starting Check-Timer
22:18:07  [main]        Control Panel Ready
```

Start, stop, test XAMPP servers

- After starting of Apache (and MySQL), go to the address http://localhost/ or http://127.0.0.1/ in your browser and examine all of the XAMPP examples and tools.

- Write your first “helloworld.php” and place it inside xampp-portable/htdocs, or it even better to create your own WebD folder inside htdocs.

- Go to the address http://localhost/WebD/helloworld.php

- You should see your first PHP page!

Programmer Editor

Do not use Word, TextEdit, or NotePad

Programmer Editor

- Windows: NotePad++
- Macintosh: TextWrangler