Web Authoring & Design

PHP
Hypertext Preprocessor

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In this lesson :

- Introduction to PHP
- Syntax
- Variables
- Echo/Print

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Introduction

- PHP is the acronym for :”PHP : Hypertext Preprocessor”
- It is an open source scripting language
- PHP scripts are executed on the server
- PHP files can contain text, HTML, CSS, JavaScript, PHP
- PHP code is executed on the server and the final result is returned to the browser as HTML code
- PHP files have extension .php
- PHP can generate dynamic page content
- PHP can collect form data from client

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Introduction

- Why PHP?
  - It runs on many platforms (Windows, Mac, Linux)
  - It is compatible with all the web servers used today (Apache and IIS)
  - It supports a wide range of DB
  - It easy to learn and runs efficiently on a server side

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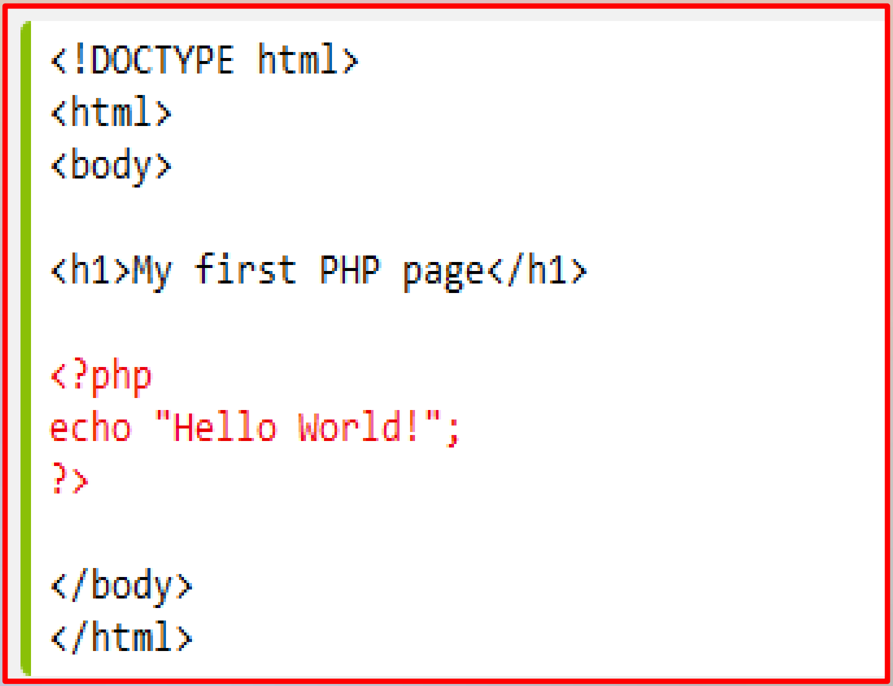
Syntax

- A PHP script can be inserted anywhere into the document and starts with **<?php** and ends with **?>**
- Example of PHP code:

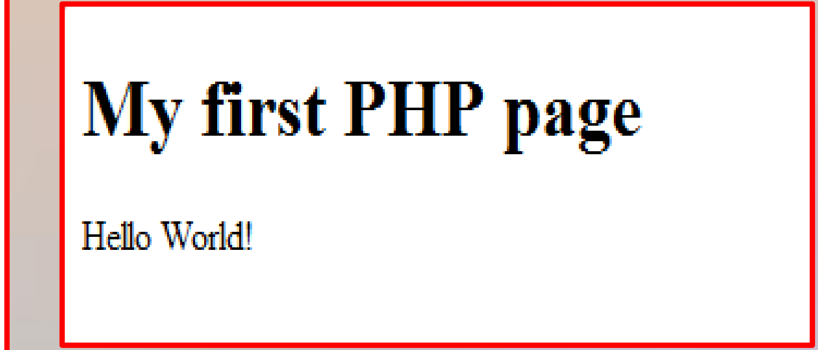


```
<!DOCTYPE html>
<html>
<body>

<h1>My first PHP page</h1>

<?php
echo "Hello World!";
?>

</body>
</html>
```



My first PHP page

Hello World!

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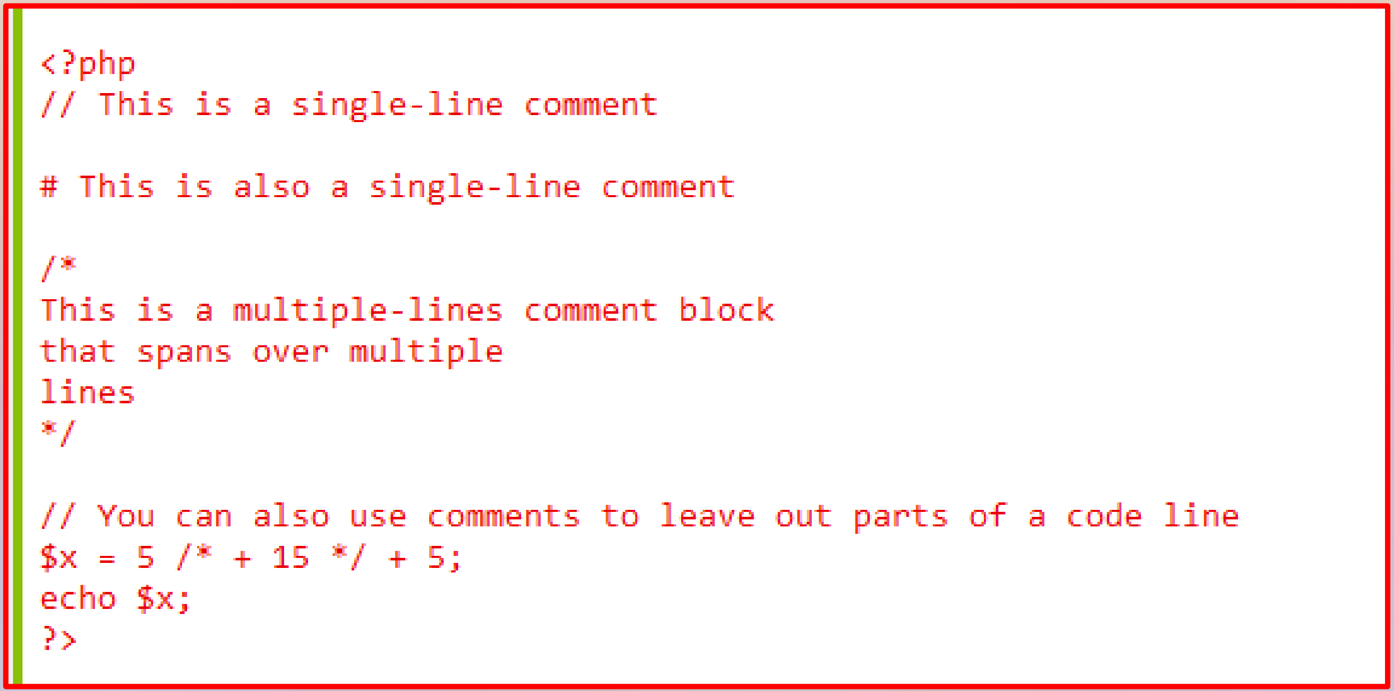
Syntax

- Comments :



```
<?php
// This is a single-line comment

# This is also a single-line comment

/*
This is a multiple-lines comment block
that spans over multiple
lines
*/

// You can also use comments to leave out parts of a code line
$x = 5 /* + 15 */ + 5;
echo $x;
?>
```

- As you can see, comments are created using : **//** or **/***

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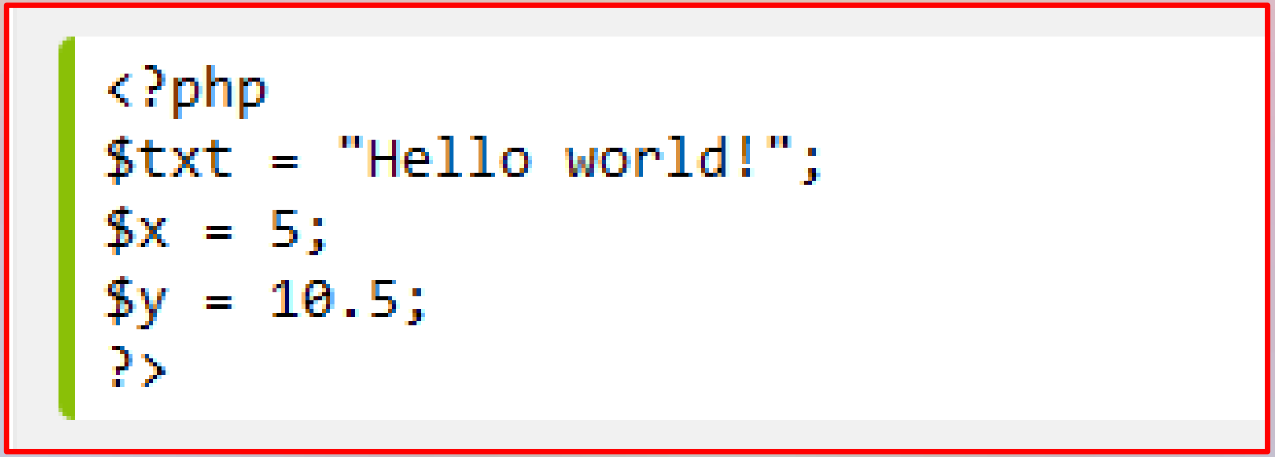
Variables

- In PHP a variable starts with **$** symbol and the name of the variable:



```php
<?php
$txt = "Hello world!";
$x = 5;
$y = 10.5;
?>
```

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Variables

- In PHP variables have different scope, depending on the position where they are defined.

- The two most important are : Local Scope – Global Scope

- **Global Scope** : is a variable declared outside a function and it is accessible everywhere in the PHP module

- **Local Scope** : is a variable defined inside a function and having a value only in that position

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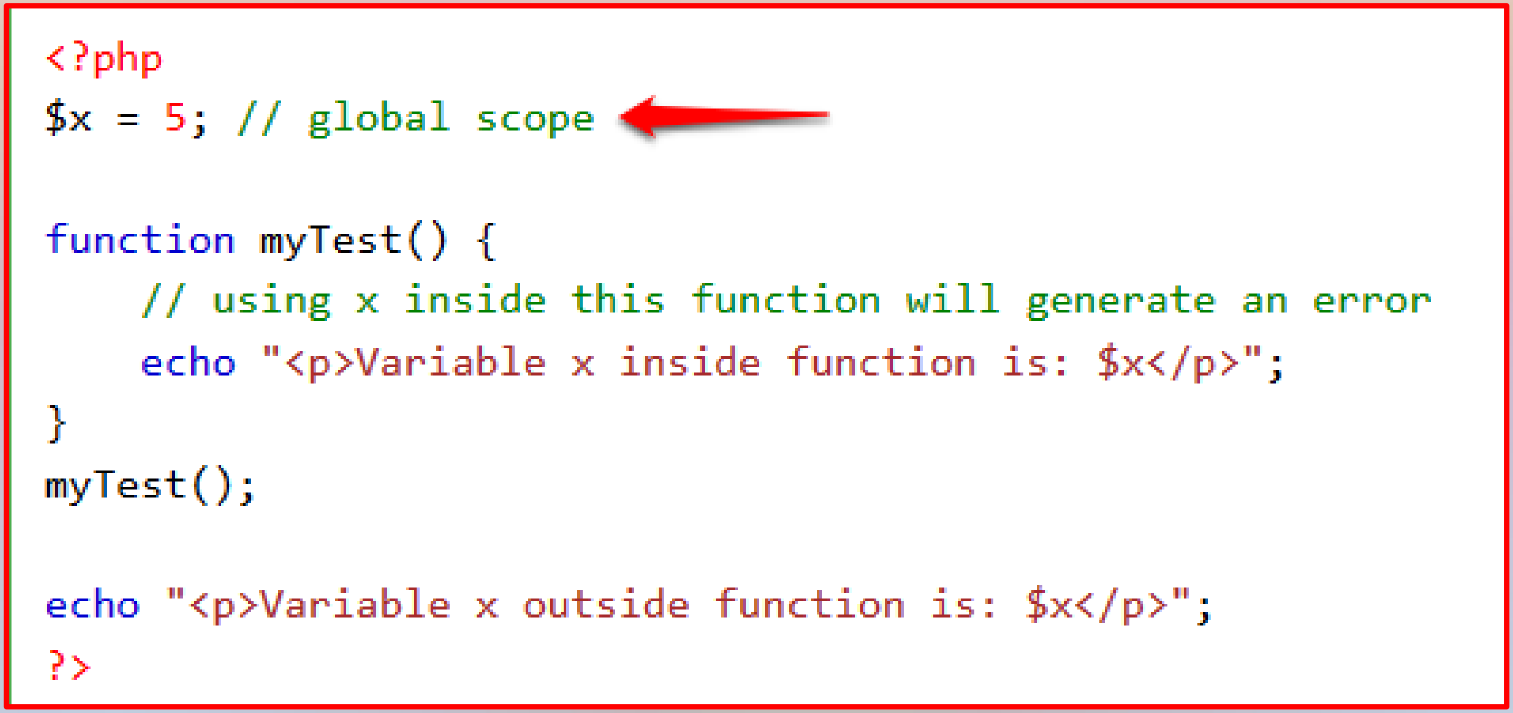
Variables

- Example of Global variable



```
<?php
$x = 5; // global scope

function myTest() {
    // using x inside this function will generate an error
    echo "<p>Variable x inside function is: $x</p>";
}
myTest();

echo "<p>Variable x outside function is: $x</p>";
?>
```

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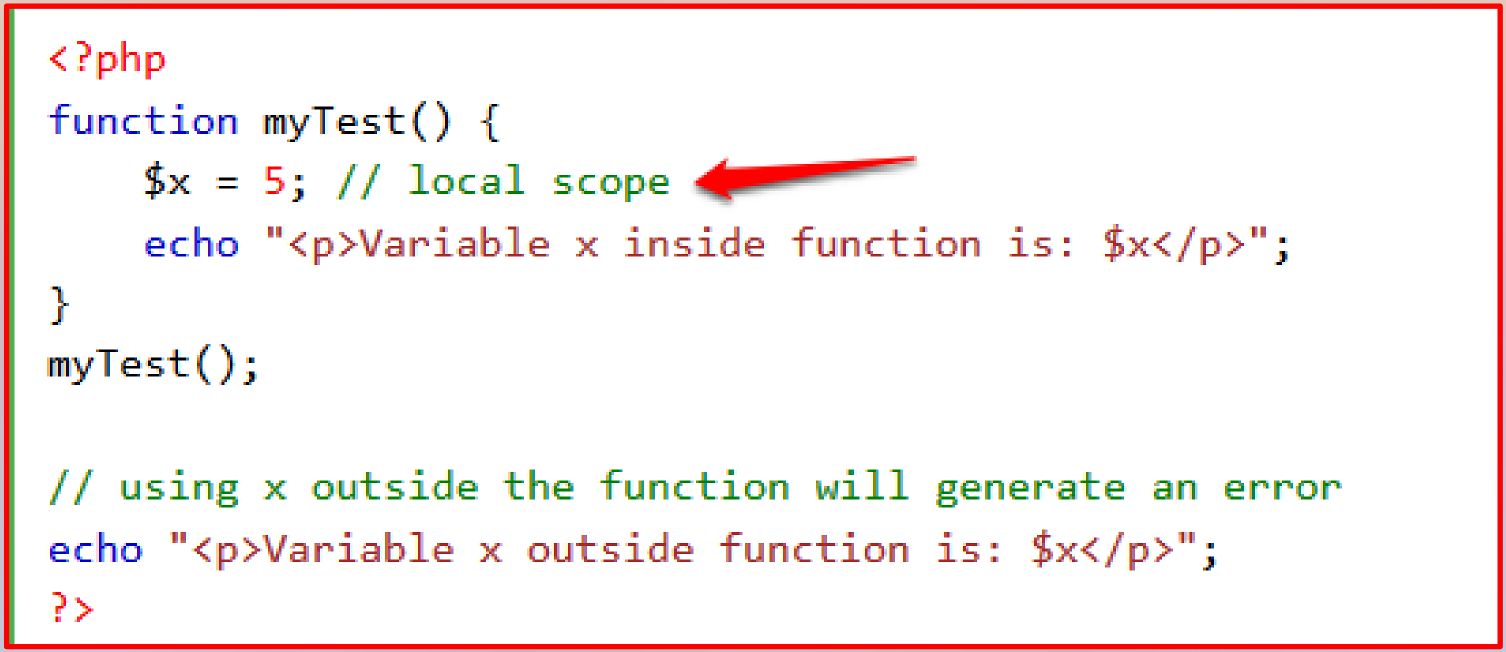
Variables

- Example of Local variable



```
<?php
function myTest() {
    $x = 5; // local scope
    echo "<p>Variable x inside function is: $x</p>";
}
myTest();

// using x outside the function will generate an error
echo "<p>Variable x outside function is: $x</p>";
?>
```

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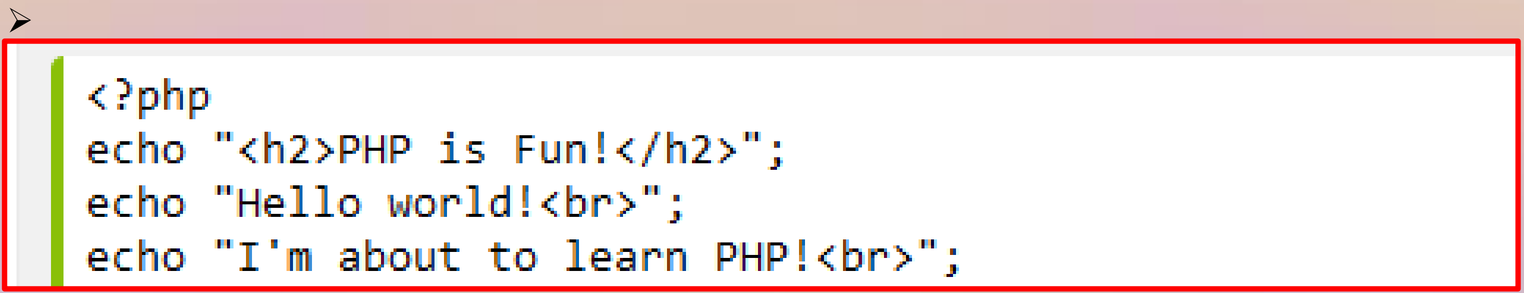
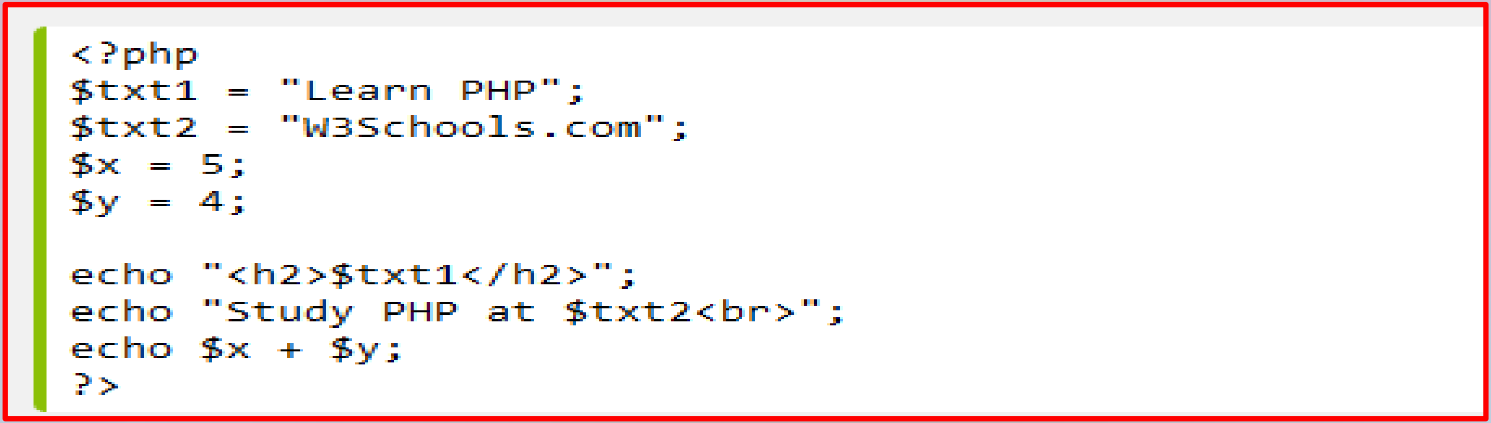
Echo/Print

- Allow printing values on the screen
  - **Echo** : no return value
  - **Print** : has a return value so it can be used in expressions



```php
<?php
echo "<h2>PHP is Fun!</h2>";
echo "Hello world!<br>";
echo "I'm about to learn PHP!<br>";
```



```php
<?php
$txt1 = "Learn PHP";
$txt2 = "W3Schools.com";
$x = 5;
$y = 4;

echo "<h2>$txt1</h2>";
echo "Study PHP at $txt2<br>";
echo $x + $y;
?>
```

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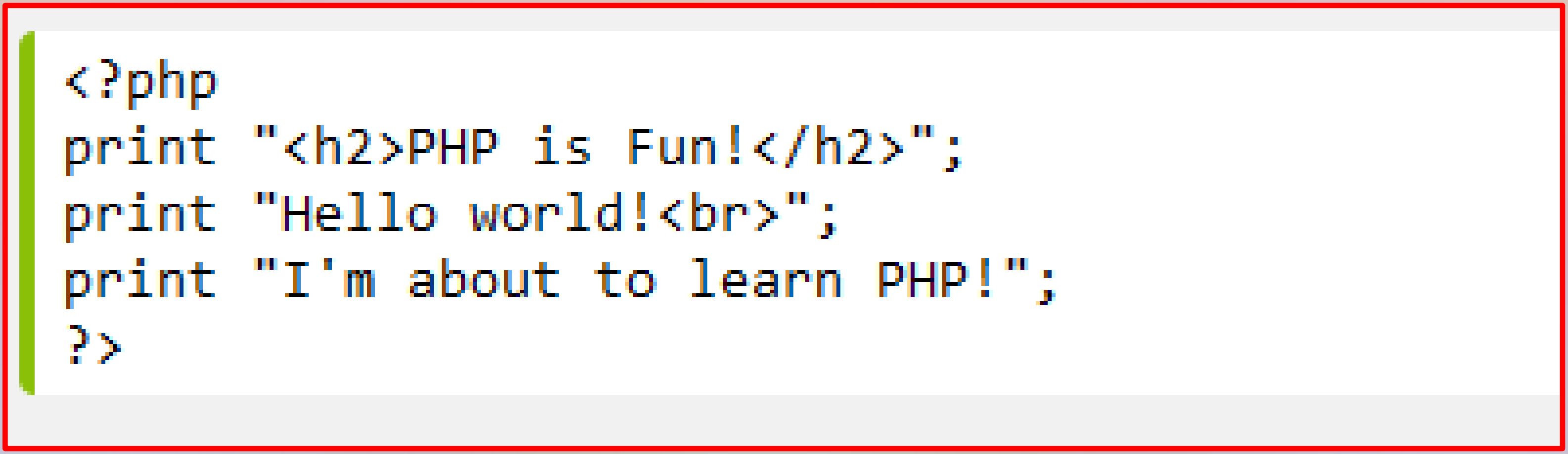
Echo/Print

- Allow printing values on the screen
  - **Echo** : no return value
  - **Print** : has a return value so it can be used in expressions



```
<?php
print "<h2>PHP is Fun!</h2>";
print "Hello world!<br>";
print "I'm about to learn PHP!";
?>
```

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Data types

- The following data types are used:

  - Strings
  - Integers
  - Float
  - Boolean
  - Array
  - Object
  - NULL

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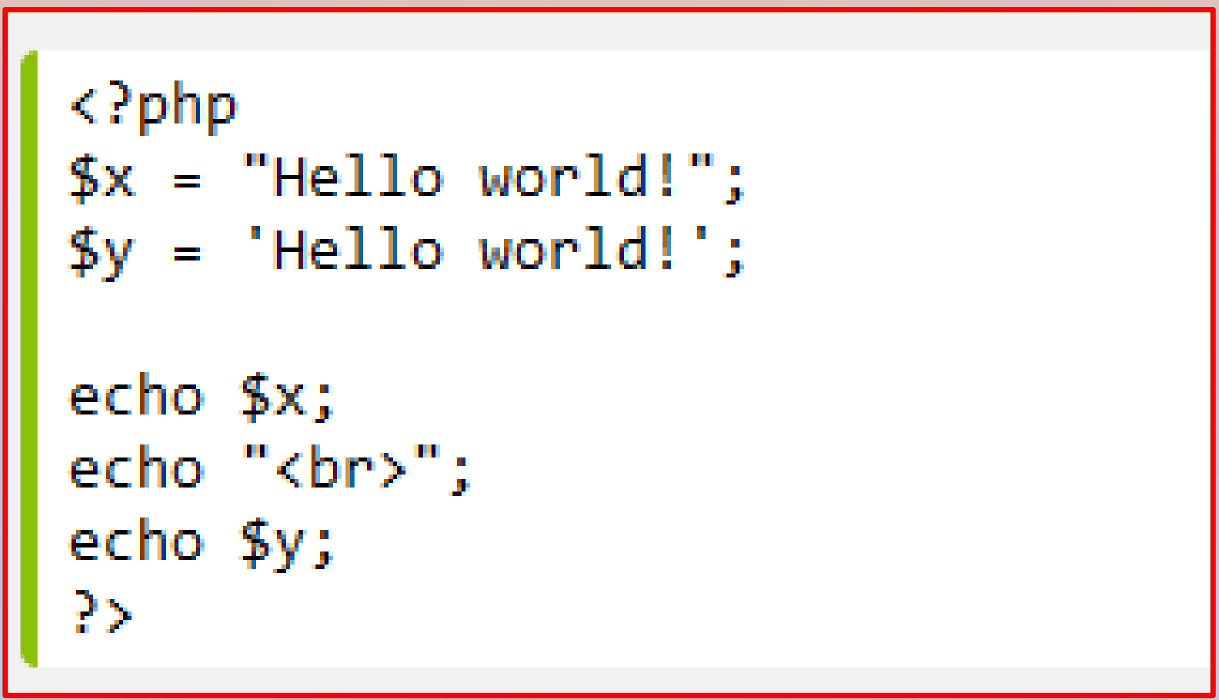
Data types

- The following data types are used:

  - **String example**:



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

echo $x;
echo "<br>";
echo $y;
?>
```

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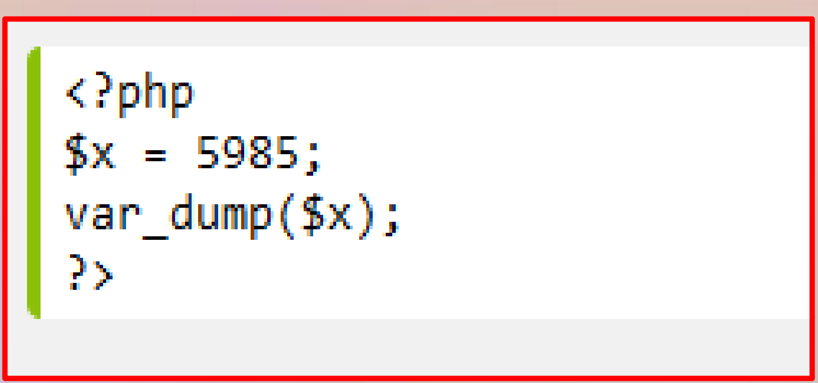
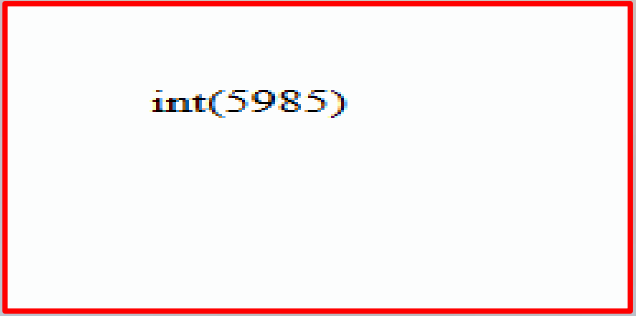
Data types

- The following data types are used:

  - **Integer example**:



```php
<?php
$x = 5985;
var_dump($x);
?>
```



```
int(5985)
```

NOTE : var_dump() is a function that prints *type* and *value* for the variable.

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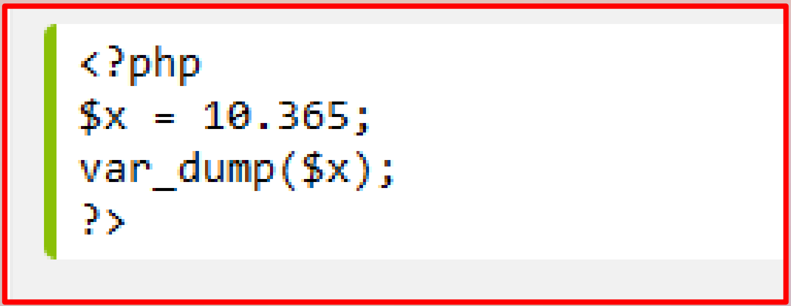
Data types

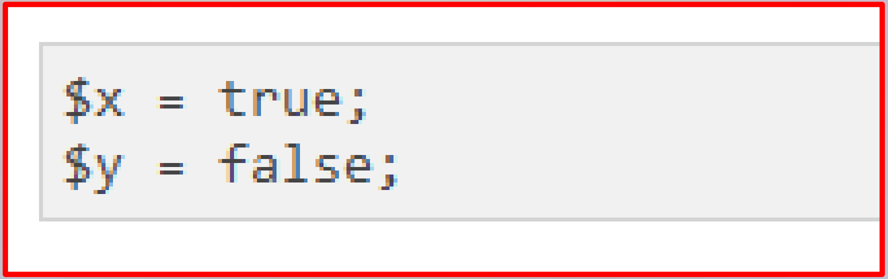
- The following data types are used:

  - **Float** example:



```
<?php
$x = 10.365;
var_dump($x);
?>
```

  - **Boolean** example :



```
$x = true;
$y = false;
```

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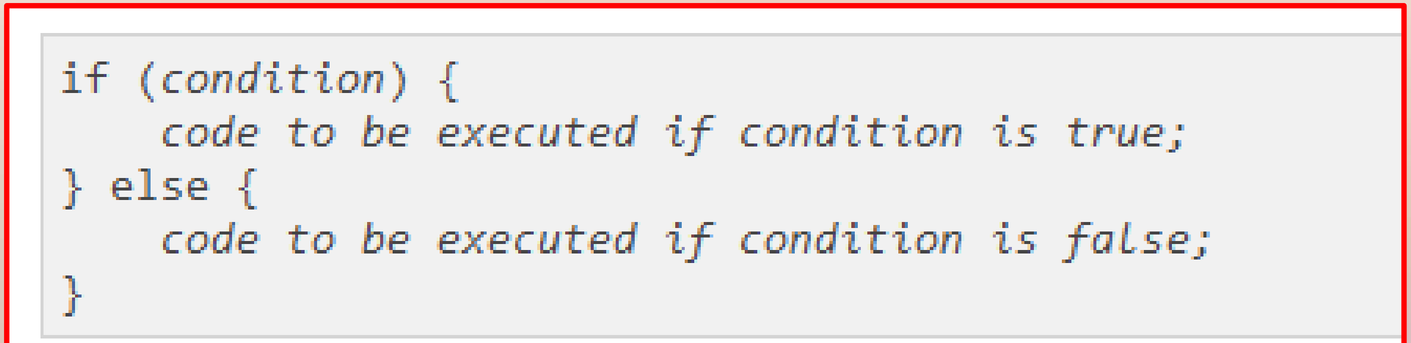
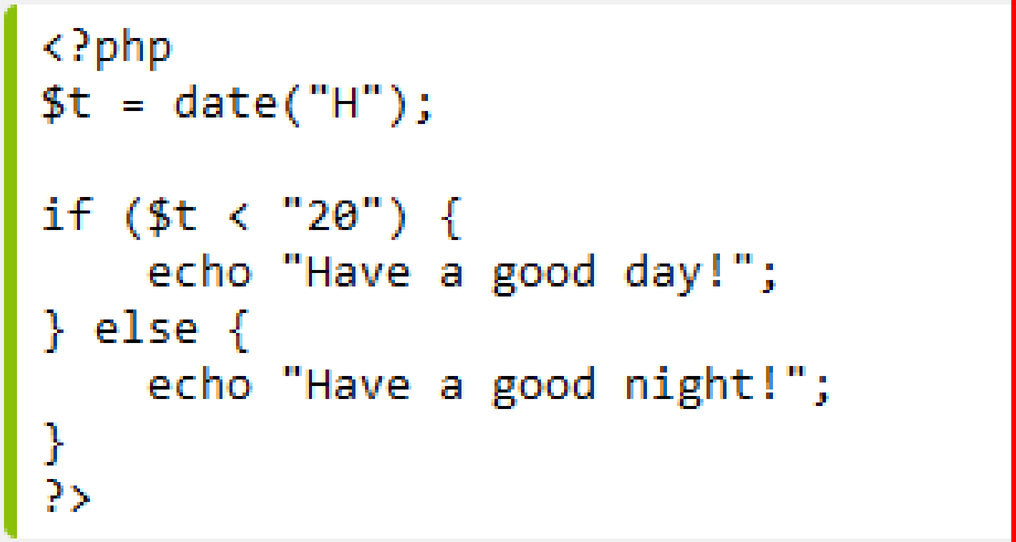
- **If…else statement**



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



```
<?php
$t = date("H");

if ($t < "20") {
    echo "Have a good day!";
} else {
    echo "Have a good night!";
}
?>
```

NOTE : date() function returns information about the present time.

In this case, date(“H”) returns a value representing the current hour

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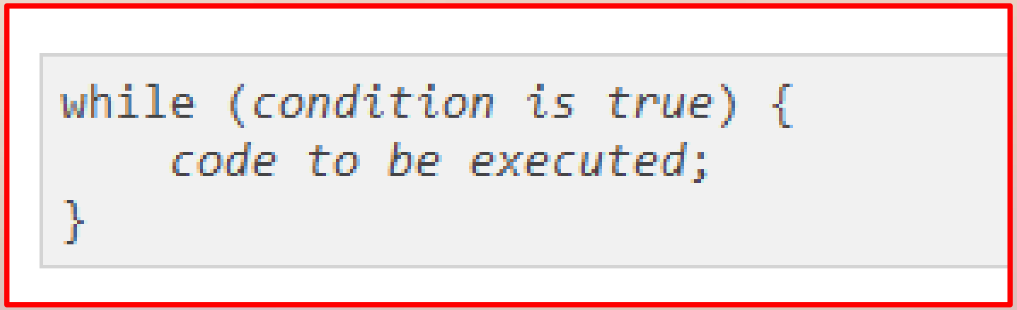
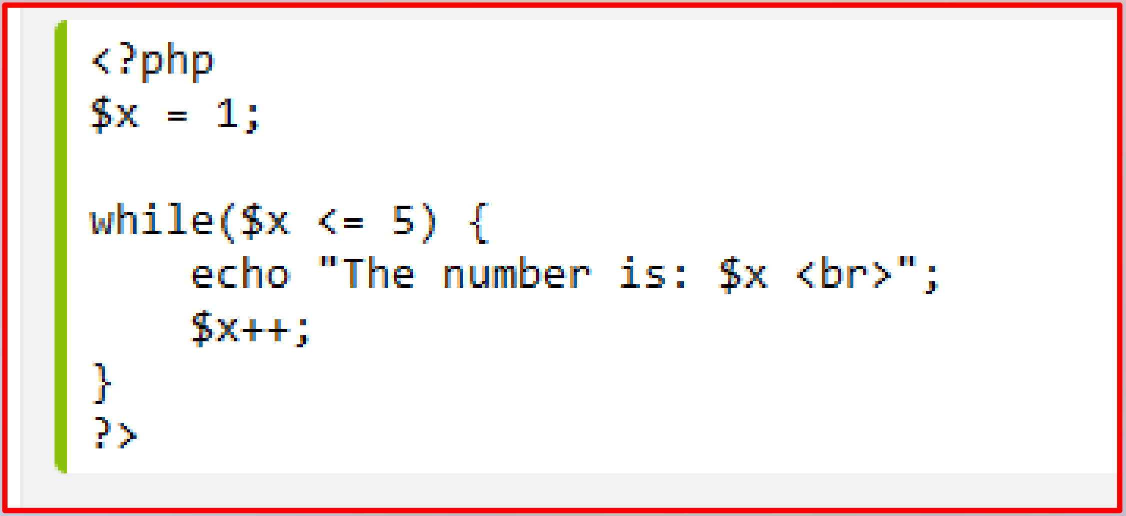
While loop



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



```
<?php
$x = 1;

while($x <= 5) {
    echo "The number is: $x <br>";
    $x++;
}
?>
```

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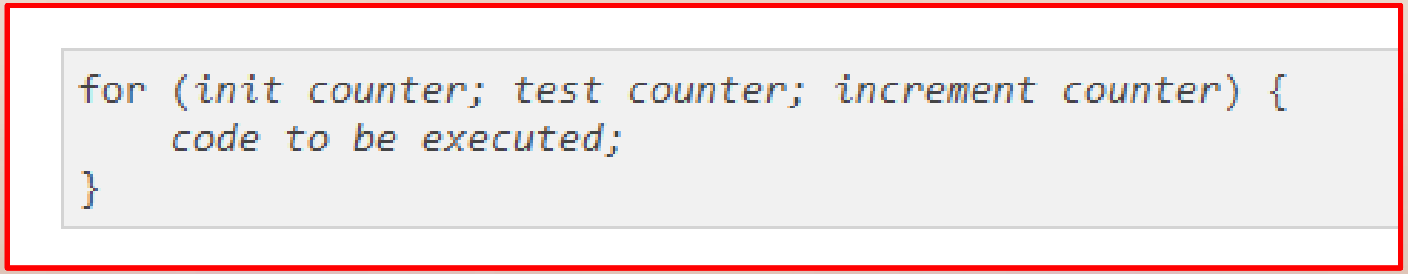
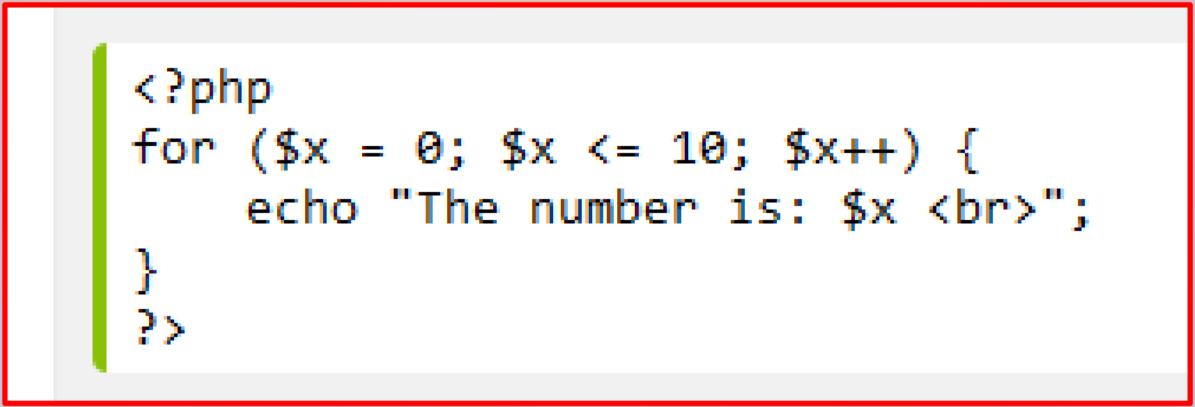
For loop



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



```
<?php
for ($x = 0; $x <= 10; $x++) {
    echo "The number is: $x <br>";
}
?>
```

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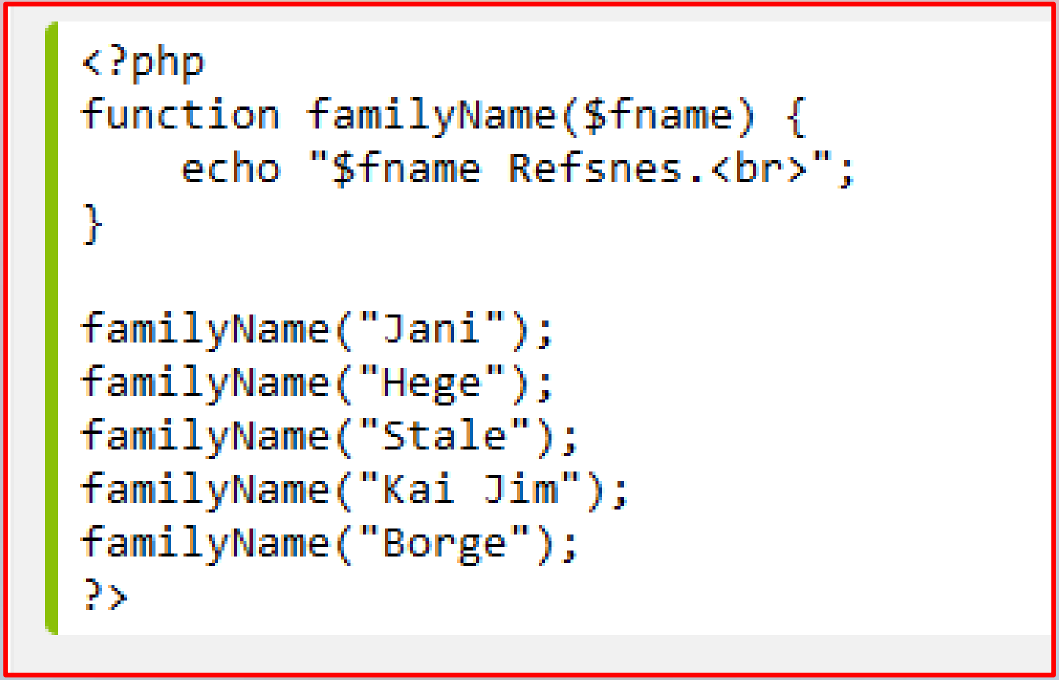
Functions

- A function is a block of code that can be used repeatedly in a program.
- A function can start with a letter or underscore (but not with number)



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

familyName("Jani");
familyName("Hege");
familyName("Stale");
familyName("Kai Jim");
familyName("Borge");
?>
```

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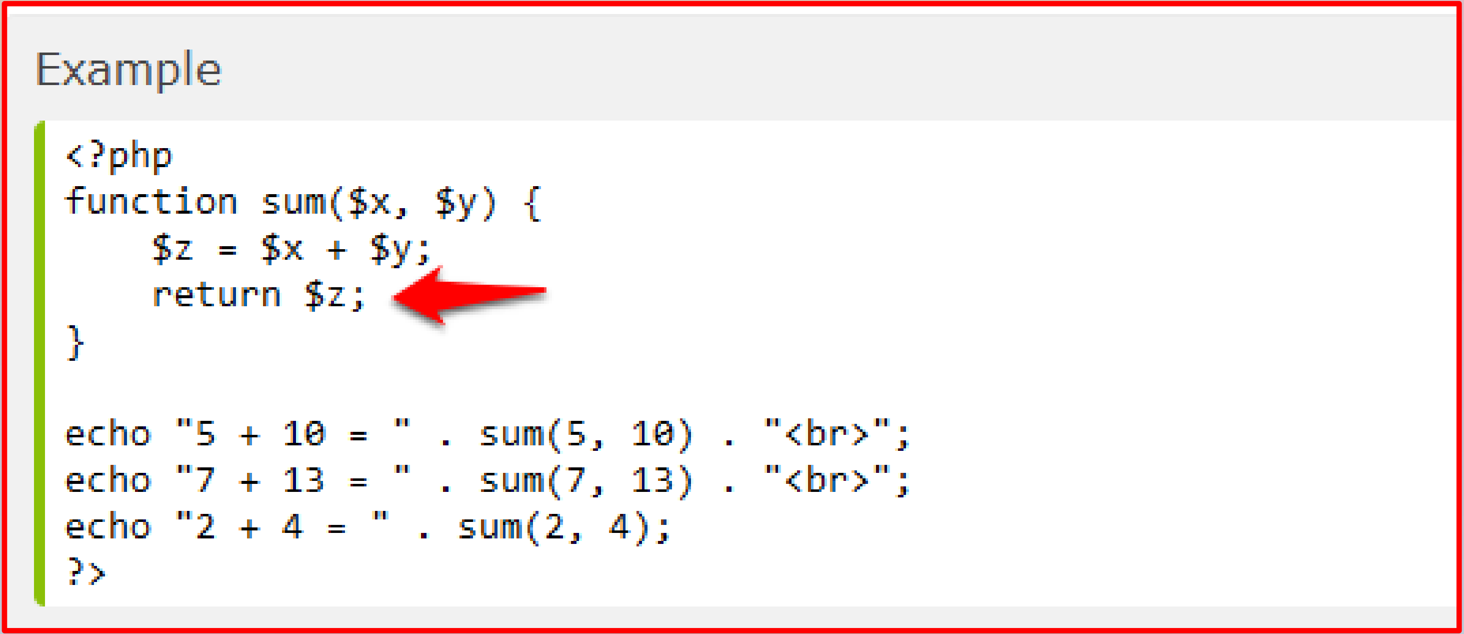
Functions …returning value

- To let a function returning a value, we have to use the “**return**” statement..



Example

```
<?php
function sum($x, $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);
?>
```

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Arrays

- To create an array, you have to use the following function :

array (<Elements>)

- In PHP exist two types of arrays :
  - **Indexed Array** : array with a numeric index
  - **Associative Array** : array with a named index

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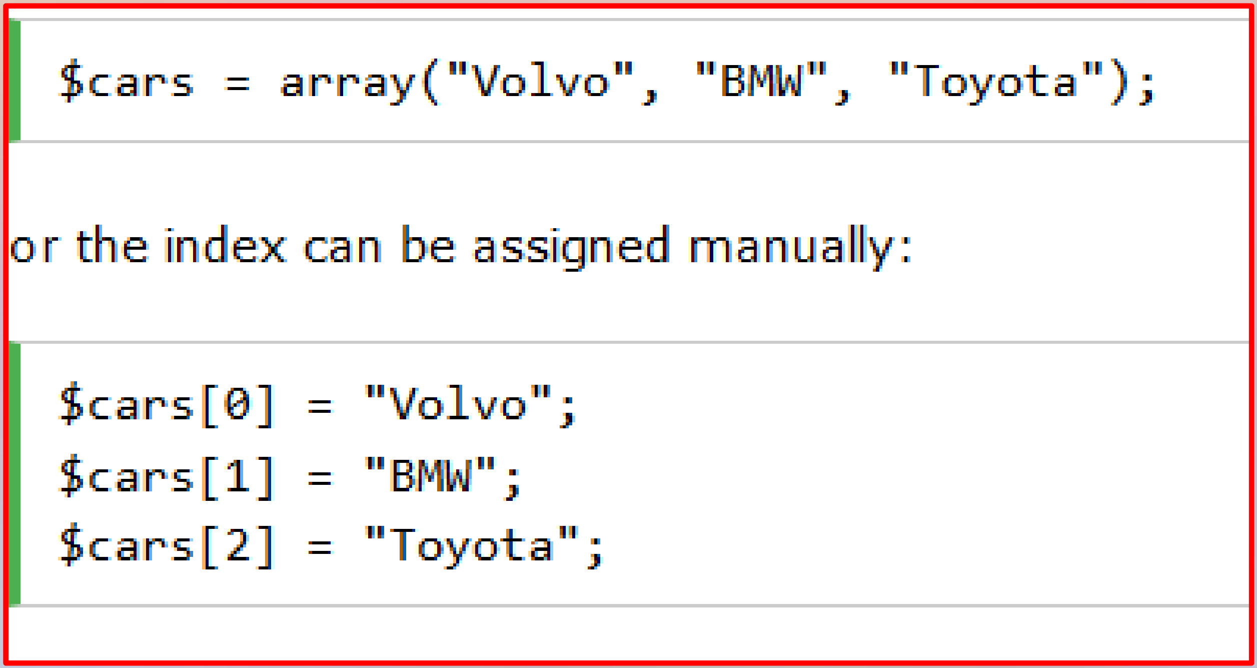
Indexed Arrays

- Example



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

or the index can be assigned manually:

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

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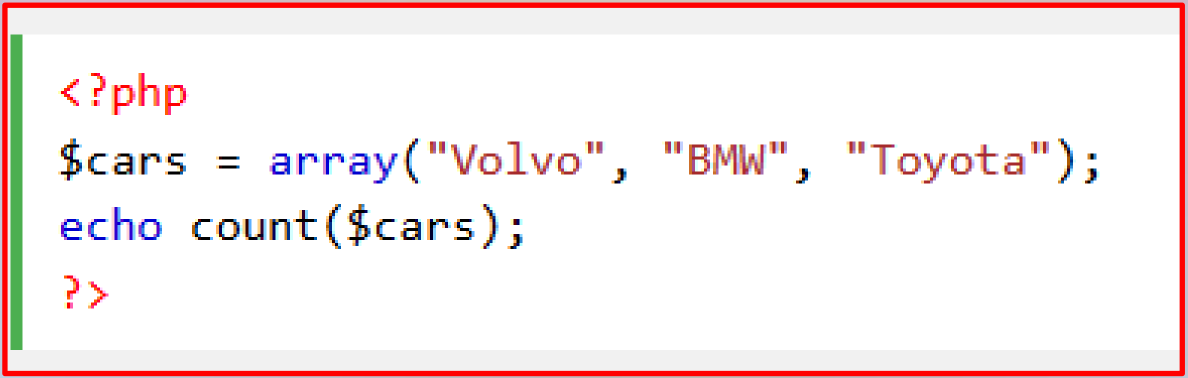
Arrays Length

- To know the length of an Array we have to use the following function:

  count (<Array Name>)

- **Example**



```
<?php
$cars = array("Volvo", "BMW", "Toyota");
echo count($cars);
?>
```

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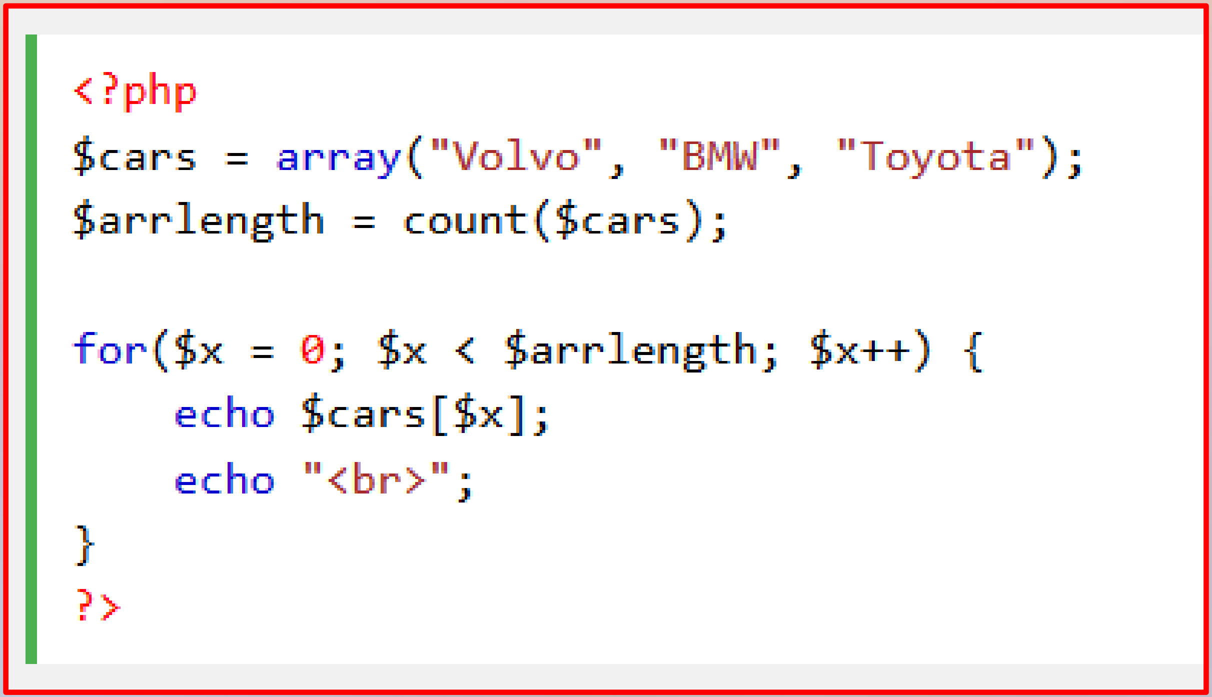
Arrays Length

- Looping through an Array



```php
<?php
$cars = array("Volvo", "BMW", "Toyota");
$arrlength = count($cars);

for($x = 0; $x < $arrlength; $x++) {
    echo $cars[$x];
    echo "<br>";
}
?>
```

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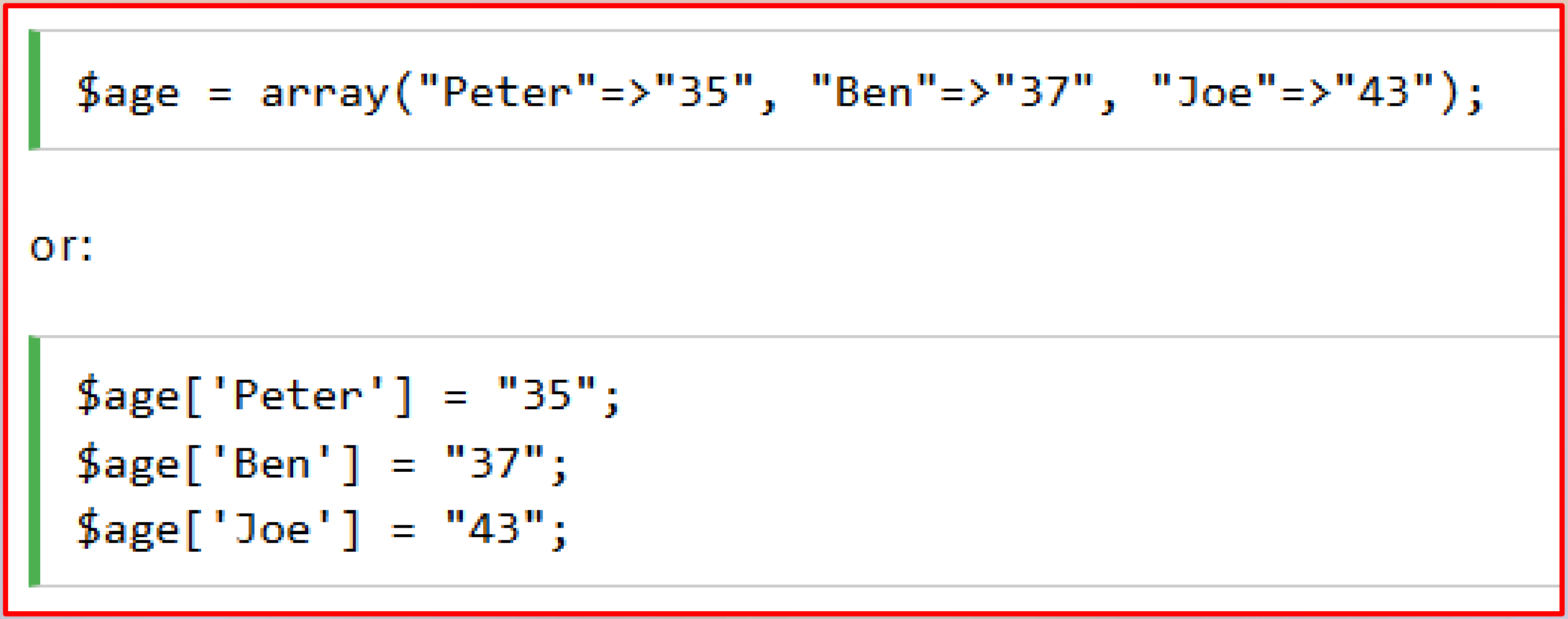
Arrays Length

- Associative Array



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

or:

```
$age['Peter'] = "35";
$age['Ben'] = "37";
$age['Joe'] = "43";
```

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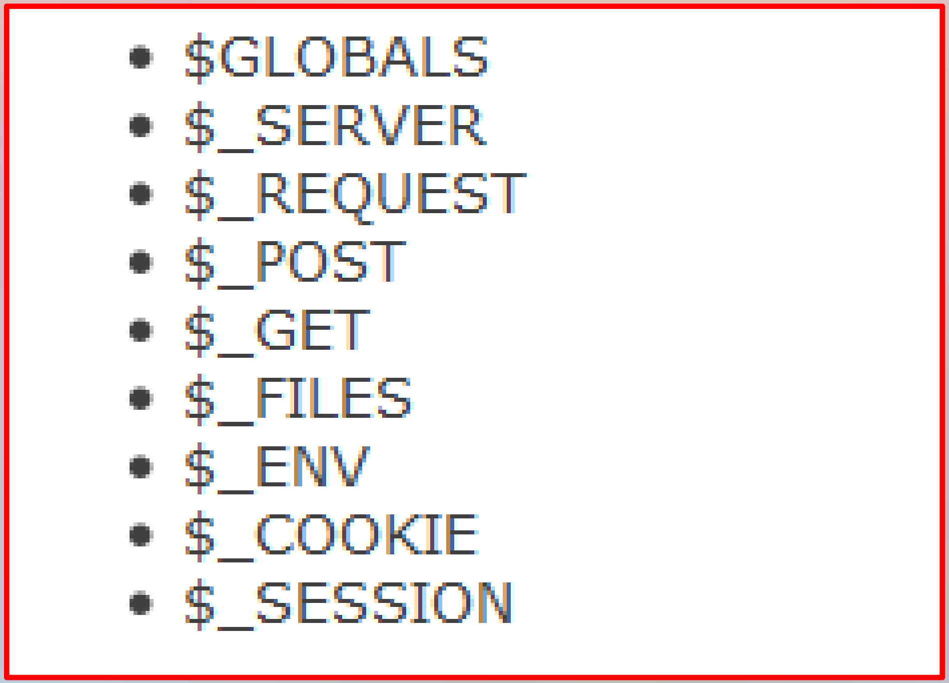
Superglobal Variables

- Are built-in variables available all over your code and are always accessible regardless of the scope…



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

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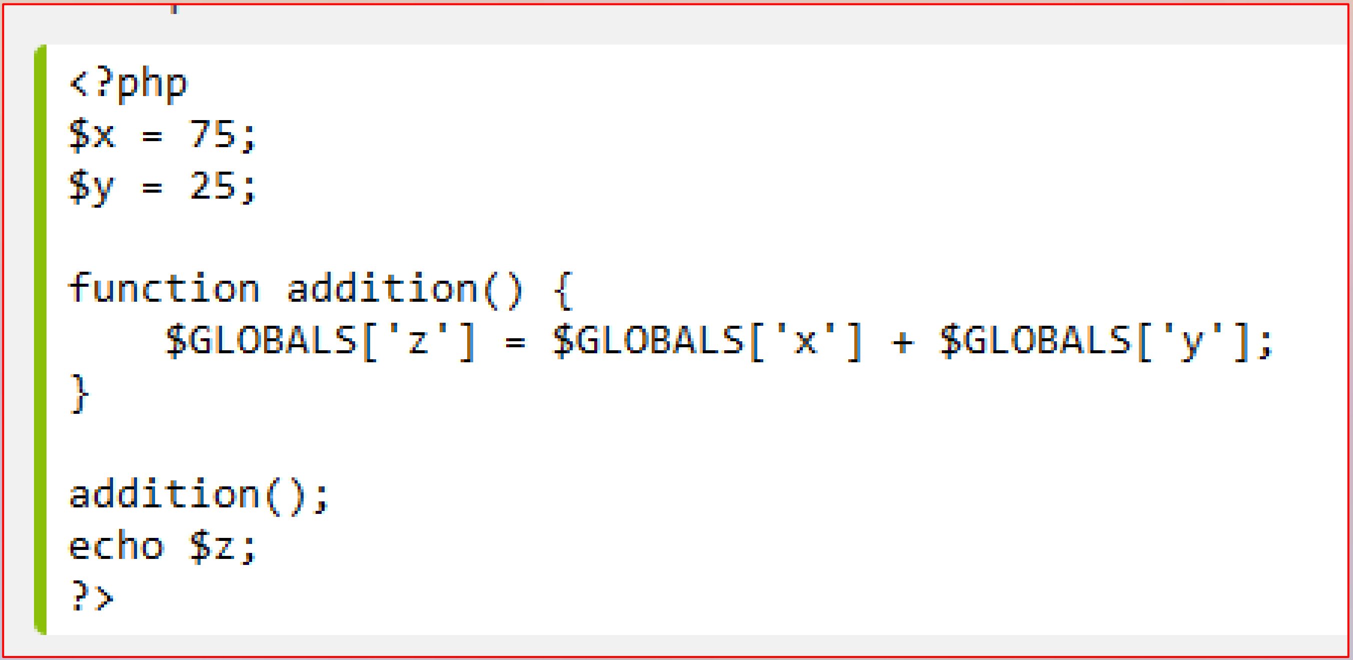
Superglobal Variables

- **Globals** : PHP stores all the variable in an array called $GLOBALS[INDEX]



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

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

addition();
echo $z;
?>
```

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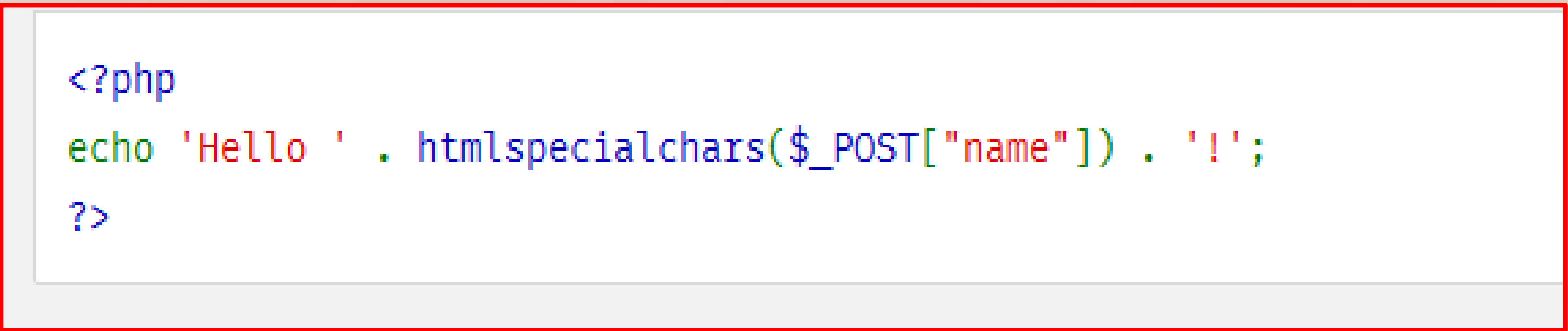
Superglobal Variables

- **$_POST**: collect data from Form submitted using “method=post”



```
<?php
echo 'Hello ' . htmlspecialchars($_POST["name"]) . '!';
?>
```

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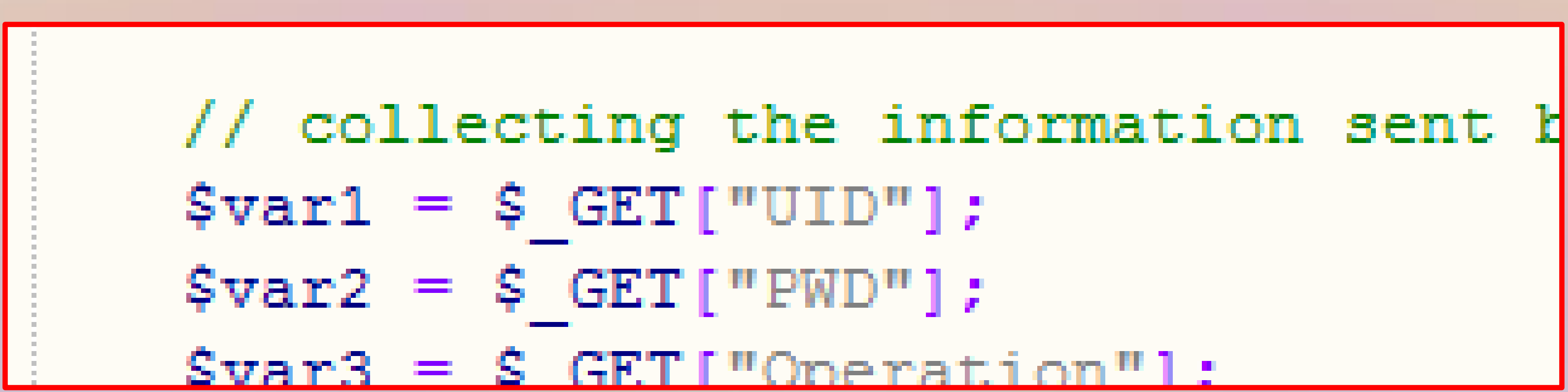
Superglobal Variables

- **$_GET**: collect data from Form submitted using “method=get”



```
// collecting the information sent b
$var1 = $_GET["UID"];
$var2 = $_GET["PWD"];
$var3 = $_GET["Operation"];
```