**Introduction to PHP (Hypertxet PreProcessor, HyperText Processor)**

**Part 1 of 2**

**References**

* Chapter 8 Introduction to Server-Side Development with PHP of the Text Book Entitled Fundamentals of Web Development, by Randy Connolly and Ricardo Hoar
* PHP 5.6.26, Sept. 16, 2016; PHP 5.6.14 Released Oct. 1, 2015; PHP 5.6.1 Released Oct. 2, 2014, <http://php.net/>
* PPH Documentation, <http://php.net/urlhowto.php>
* PHP Language Reference, <http://php.net/manual/en/langref.php>
	+ Basic Syntax
	+ Data Types
	+ Variables
	+ Constants
	+ Expressions
	+ Operators
	+ Control Structure
	+ Include Files
	+ Classes and Objects
	+ Namespaces
	+ Exceptions
	+ Predefined Variables

**Basic Syntax**

**PHP Tags**

<? …. ?> shorthand version of <?php ….?>

<script language = “php”>

….

</script>

**PHP Comments: three types of Comments**

/\* \*/ Multiple-line comment, Block comment

// End-of-line comment, One line comment at the end of the statement

# Single-line comment, at the beginning of the line

**PHP Data Types**

* Boolean // true, false
* Integer // whole numbers
* Float // Decimal numbers
* String // Letters, characters
* Array // A collection of data of various data types
* Object // Instances of classes

**Variables**

* Case sensitive
* Loosely types
* Always start with the **$ symbol** before the variable name
* Examples
	+ $count = 42;
	+ $id = 1234;
	+ $artist1 =”Picasso”;
	+ $artist2 =”Raphael”;
	+ $php5 = ‘version’;
	+ $os = “Microsoft Windows Prof 7”;
	+ $this\_int = 50; // Standard decimal notation
	+ $that\_int = 062; // Octal number
	+ $my\_int = 0x32; //Hexadecimal

**Variable Manipulation**
<?php

$sum = 10 + 2; //12

echo($sum);

 $sum = $sum + 5; //17

echo “$sum = ” . $sum;

 $sum = %sum % 2; //1

 $answer = 5;

 $answer += 2;

 $answer \*= 2;

 $answer ++;

 $answer --;

?>

**String Escape Sequences (Escape Characters) in PHP**

|  |  |
| --- | --- |
| Escape String | Meaning |
| \n | New line |
| \t | Horizontal tab |
| \\ | Back slash character |
| \$ | $ character |
| \’ | Single quote |
| \” | Double quote |
| \### | ASCII character (octal) |
| \x## | ASCII character (hexadecimal) |

**Constants**

* Typically defined near the top of PHP file via the **define()** function
* Examples

<?php

# uppercase for constants – programming convention

define(“DATABASE\_LOCAL”, “localhost”);

define(“DATABASE\_NAME”, “ArtStore”);

define(“DATABASE\_USER”, “Fred”);

define(“DATABASE\_PASSWD”, “F5^7%ad”);

….

…

$db = new mysqli(DATABASE\_LOCAL, DATABASE\_NAME, DATABASE\_USER, DATABASE\_NAME);

?>

**Control Structures**

* if .. else
* switch .. case
* while, do while
* for

**Include Files**

* include “somefile.php”
* include\_once “somefile.php”
* require “somefile.php”
* require\_once “somefile.php”

**Reference to Include File PHP Scripts Examples**

include “files.php”; // <http://php.net/manual/en/function.include.php>

include\_once “file.php”; // <http://php.net/manual/en/function.include-once.php>

require (‘library.inc’); // <http://php.net/manual/en/function.require.php>

**Functions**

* PHP Built-in
	+ echo() //Output to HTML
	+ define() // Define constants
	+ printf() // Formatted output
* User Defined
	+ Syntax: function, return
	+ Calling a function
	+ Parameters
		- Passing by values
		- Passing by reference
	+ Variable scopes

Example:

/\*

\* This function returns nicely formatted System Time string using the current

\* System time.

\*/

function getTime(){

 return date(“H:1:s”);

}

/\* This function outputs the footer menu

 \*

 \*/

function outputFooterMenu() {

 echo ‘<dic id=”footer”>’;

 echo ‘<a href=#>Home </a> | <a href=#Product</a> | ’;

 echo ‘<a href=#>About us </a> | <a href=#Contact us</a>’;

 echo ‘<div>’;

}

**Example: variable-manip.hph,** [**http://www.etcs.ipfw.edu/~lin/CPET499-ITC250/Lin-php-examples/variable-manip.php**](http://www.etcs.ipfw.edu/~lin/CPET499-ITC250/Lin-php-examples/variable-manip.php)

<? php

 $answer = 10;

 echo(++$answer).” “;

 echo “$answer<BR>”;

 $answer += 10;

 echo ($answer++).” “;

 echo $answer; ?

 unset($answer); //destroy the variable

?>

<?php

 %thankyou\_string = “Thank you “;

 %thankyou\_string = thankyou\_string . “for your comments!”;

// String concatenation operator period .

?>

**Predefined Variables**

* $Superglobals // Bulit-in variables that are always available in all scopes
* $GLOBALS // All variables available in global scope
* $\_SERVER // Server and execution environment info
* $\_GET // HTTP GET variables
* $\_POST // HTTP POST variables
* $\_FILES // HTTP file upload variables
* $\_REQUEST // HTTP request variables
* $\_SESSION // Session variables
* $\_ENV // Environment variables
* $\_COOKIE // HTTP cookies
* $php\_errormsg
* $HTTP\_RAW\_POST\_DATA // Raw POST data
* $http\_response\_header // HTTP response headers
* $argc // The number of arguments passed to script
* $argv // Array arguments passed to script

**PHP Functions Reference**

* **echo()**
* **unset() // Destroy variables**
* **func\_get\_args() // get function arguments**
* **func\_num\_args() // get function argument count**

**String Manipulation Functions**

* **strcmp() // string comparison, case sensitive**
* **strcasecmp() // string comparison, non case sensitive**
* **substr() // the sub string**
* **strlen() // The number of chars in the string**
* **strops() // The character position**
* **chop() // Remove all white spaces from its ends**
* **trim() // remove all white spaces from both ends**
* **strtolower() // covert to lower case characters**
* **strtoupper() // convert to upper case characters**

**Arithmetic Functions**

* **floor(), ceil(), round(), srand(), rand(), abs(), min(), max()**

**Ouput Functions**

* **print()**
* **printf() // formatted output**

**PHP Functions**

* func\_get\_args() // <http://us3.php.net/manual/en/function.func-get-args.php>
* func\_num\_args()

Example: funct\_arguments.php, <http://www.etcs.ipfw.edu/~lin/CPET499-ITC250/Lin-php-examples/funct_arguments.php>

<!DOCTYPE html>

<!—funct\_arguments.php - A trivial example to illustrate a php document -->

<html lang = "en">

 <head>

 <title> funct\_arguments.php </title>

<meta charset = "utf-8" />

 </head>

 <body>

<?php

 function func\_dynamic() {

 echo “ITC 250/CPET 499 Web Systems: “.func\_num\_args(). “Number of arguments.<br>”;

 $args = func\_get\_args();

 for($i = 0; $i < count($args); $i++{

 echo “Passed arguments: {args[$i]} <br>;

 }

 }

 func\_dynamic(5, 4, 3, 2, 1 );

?>

 </body>

 </html>