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

**Part 1 of 3**

**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, 1,0 );

?>

</body>

</html>