

CS320 Web and Internet Programming

Introduction to PHP

Chengyu Sun
California State University, Los Angeles

PHP

- ◆ *Personal Home Page Tools* by Rasmus Lerdorf in 1995
- ◆ PHP: Hypertext Preprocessor by Andi Gutmans and Zeev Suraski
 - 1998 PHP 3
 - 2000 PHP 4
 - 2004 PHP 5
- ◆ PHP usage - <http://www.php.net/usage.php>
 - 23+ million domain
 - 1.2+ million ip addresses

PHP as a Programming Language

- ◆ Literals
- ◆ Variables
- ◆ Constants
- ◆ Operators
- ◆ Expressions
- ◆ Statements
- ◆ Functions
- ◆ Classes

Hello World

```
<html>
<head><title>PHP Hello World</title></head>
<body>

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

</body>
</html>
```

Comments

- ◆ Script style: # single-line comment
- ◆ C++ style: // single-line comment
- ◆ C style:
 - /* single-line comment */
 - /* multiple-line comments */

Literals

- ◆ 123, 0123, 0x123
- ◆ 12.3
- ◆ "123", '123'
- ◆ true, false

"Here Document"

```
echo <<<DELIM
  this is a multiple
  line text delimited defined using
  the "here document" style.
DELIM;
```

Variables and Constants

- ◆ Starts with a \$
- ◆ Variables names are *case-sensitive*
- ◆ Variable *reference* &
- ◆ Constant
 - n `define(name, value)`
 - n E.g. `define(TITLE, "PHP Test Page")`

Operators

- | | |
|--|--|
| ◆ Arithmetic <ul style="list-style-type: none">n +, -, *, /, % | ◆ Concatenation <ul style="list-style-type: none">n . |
| ◆ Assignment <ul style="list-style-type: none">n =n +=, -=, *=, /=, %=n .= | ◆ Comparison <ul style="list-style-type: none">n ==, !=n >, >=, <, <= |
| ◆ Increment/decrement <ul style="list-style-type: none">n ++, -- | ◆ Logical <ul style="list-style-type: none">n &&, , ! |
| | ◆ Conditional <ul style="list-style-type: none">n ?: |

Control Statements

- | | |
|--|---|
| ◆ Branch <ul style="list-style-type: none">n ifn if ... elsen if...elseif...else | ◆ Loop <ul style="list-style-type: none">n whilen do ... whilen forn foreach |
| ◆ Switch <ul style="list-style-type: none">n switch | ◆ Break and continue <ul style="list-style-type: none">n breakn continue |

Include Other Files

- ◆ `include()`, `include_once()`
- ◆ `require()`, `require_once()`
- ◆ `include` vs. `require`

Functions

```
function sum( $op1, $op2 )
{
  return $op1 + $op2;
}

function say_hello()
{
  echo "hello.<br>";
}
```

Arrays

- ◆ *Associative* arrays, like *Map* in Java
 - <key, value>
 - Key must be either integer or string

Array Examples

```
$courses = array( "cs320" => "web", "cs122" => "SQL" );  
$strings["a"] = "abc";  
$strings[1] = "def";  
  
# when key is omitted  
$numbers1 = array( 1, 2, 3, 4, 5 );  
$numbers2 = array( 1 => 1, 2 => 2, 3, 4, 5 => 5 );  
  
$strings[] = "xyz";  
$strings[] = "uvw";
```

Access Array Elements

```
foreach ( $courses as $key => $value )  
    echo "$key, $value <br>";  
  
foreach( $numbers as $n )  
    echo "$n <br>";  
  
for( $i = 0 ; $i < count($numbers) ; ++$i )  
    echo $numbers[$i];
```

Some Array Functions

- ◆ `unset()`
- ◆ `count()`, `sizeof()`
- ◆ `sort()`, `rsort()`
- ◆ `ksort()`, `krsort()`

PHP as a Web Programming Language

- ◆ Handle HTTP requests
- ◆ Generate HTTP response
- ◆ Session tracking
- ◆ Database access

Pre-defined Variables

- ◆ `$_GET`
- ◆ `$_POST`
- ◆ `$_REQUEST`
- ◆ `$_SESSION`
 - Function `session_start()`
 - `session.auto_start` in `php.ini`
- ◆ `$_SERVER`

MySQL Functions

- ◆ `mysql_connect(host, user, pass)`
- ◆ `mysql_select_db(db)`
- ◆ `mysql_query(stmt)`
- ◆ `mysql_fetch_array(results [, array_type])`
 - `MYSQL_ASSOC, MYSQL_NUM, MYSQL_BOTH`
- ◆ `mysql_close()`

Examples

- ◆ Shopping Cart
- ◆ Add and display items