Old Dominion University

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PHP

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What is PHP?

- PHP: Hypertext Preprocessor
- Server-side scripting language
  - different from JavaScript (a client-side scripting language)
- Free alternative to Microsoft's Active Server Pages (ASP)
- Can be directly embedded into HTML
- Syntax is similar to Perl and C
- PHP is often combined with a MySQL database

http://www.w3schools.com/php/default.asp

Outline

- Syntax
- Strings
- Conditionals
- Forms
- Arrays
- Loops
- Functions
- Ch 2 Code Example Demo/Walkthrough

Note: These slides (and examples inside the slides) are from my CS 312 class
http://www.cs.odu.edu/~mweigle/cs312/index.html#php

Basic Syntax

- Start with `<?php`
- End with `?>`
- Each code line must end with a semicolon
- Comments
  - one-line `//`
  - multi-line `/* ... */`
- To output text, use `echo ' '`
- All variables start with `$`
  - data type does not need to be set before declaring variable
    - `$text = "Hello World";`
    - `$num = 16;`

http://www.w3schools.com/PHP/php_syntax.asp

Hello World Example

```
<html>
  <head><title>PHP Test</title></head>
  <body>
    <?php echo '<p>Hello World</p>'; ?>
  </body>
</html>
```

file extension must be `php`

http://www.cs.odu.edu/~mweigle/cs312/php/hello.**php**

http://us.php.net/tut.php

PHPInfo Example

- phpinfo() is a built-in function that displays useful information about your system setup (loaded PHP modules, predefined variables, configuration settings)

```
<html>
  <head><title>PHP Info</title></head>
  <body>
    <?php phpinfo(); ?>
  </body>
</html>
```

http://www.cs.odu.edu/~mweigle/cs312/php/info.php

http://us.php.net/tut.php

Displaying Browser Type

- Let's check what browser the user is using
  - look at the "User-Agent:" option that is sent in the HTTP request header
  - $_SERVER is a special reserved variable

```
<html>
  <head><title>PHP Browser Check</title></head>
  <body>
    <?php
     echo $_SERVER['HTTP_USER_AGENT'];
    ?>
  </body>
</html>
```

http://www.cs.odu.edu/~mweigle/cs312/php/browser.php

http://us2.php.net/manual/en/reserved.variables.server.php

Strings in PHP

- Concatenation operator .

```
$txt1 = "Hello World";
$txt2 = "1234";
echo $txt1 . " " . $txt2;
```

Hello World 1234

http://www.w3schools.com/PHP/php_string.asp

Useful String Functions

- strlen(String)
  - returns the length of the string
  - number of characters, including spaces
- strpos(String, SearchString)
  - returns the starting position of SearchString if found inside String
    - position starts from 0 (i.e., 0 is the first character)
  - returns FALSE if SearchString is not found in String

http://www.w3schools.com/PHP/php_string.asp

More PHP Syntax

- Familiar C++/Java/Perl operators
  - comparison: ==, !=, >, >=, <, <=
  - assignment: =, +=, *=, …
  - logical: &&, ||, !
- Familiar C++/Java/Perl conditionals syntax

```
if (condition) {
        statements;
} elseif {
        statements;
} else {
        statements;
}
```

http://www.w3schools.com/PHP/php_if_else.asp

Displaying Browser Type

Now With Conditionals

<html>, <head>, <body> tags removed in remaining examples to save space

```
<?php
if (strpos ($_SERVER['HTTP_USER_AGENT'], 'MSIE') != FALSE) {
    echo "You are using Internet Explorer.";
} else {
    echo "You aren't using Internet Explorer, you're using <br />" .
 $_SERVER['HTTP_USER_AGENT'];
}
?>
```

http://www.cs.odu.edu/~mweigle/cs312/php/browser2.php

http://us.php.net/tut.php

Mixing PHP and HTML

- Logical flow of the script remains intact even if broken up with HTML statements.

```
<?php
if (strpos ($_SERVER['HTTP_USER_AGENT'], 'MSIE') != FALSE) {
?>
<h3>strpos() returned non-false</h3>
<p>You are using Internet Explorer</p>
<?php
} else {
?>
<h3>strpos() returned false</h3>
<p>You are not using Internet Explorer, you're using</p>
<?php
  echo $_SERVER['HTTP_USER_AGENT'];
}
?>
```

http://us.php.net/tut.php

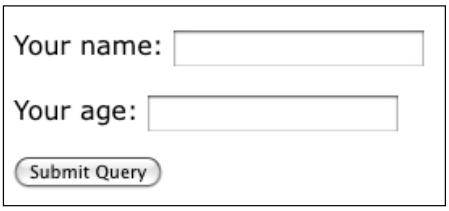
http://www.cs.odu.edu/~mweigle/cs312/php/html-php.php

PHP and Forms

- Use a separate PHP file (not embedded in HTML)

```
<form action="action.php" method="post">
  <p>Your name: <input type="text" name="name" /> </p>
  <p>Your age: <input type="text" name="age" /> </p>
  <p><input type="submit" /> </p>
</form>
```

http://www.cs.odu.edu/~mweigle/cs312/php/php-form.html



http://us.php.net/tut.php

PHP and Forms

- $_POST http://www.cs.odu.edu/~mweigle/cs312/php/action.php
  - when "post" method is used
- $_GET
  - when "get" method is used
- $_REQUEST
  - when either "get" or "post" is used

```
Hi <?php echo htmlspecialchars($_POST['name']); ?>.
You are <?php echo (int)$_POST['age']; ?> years old.
```

htmlspecialchars() ensures that any special HTML characters are properly encoded so people can't inject HTML tags or JavaScript into your page.

http://www.w3schools.com/PHP/php_get.asp

PHP Numeric Arrays

- Creation

```
$names = array("Katniss", "Peeta", "Gale");
OR
$names[0] = "Katniss";
$names[1] = "Peeta";
$names[2] = "Gale";
```

Length of an array:
count (*array*)

```
count ($names)
3
```

- Usage

```
$names[1]        Peeta
```

http://www.w3schools.com/PHP/php_arrays.asp

PHP Associative Arrays

- Creation

```
$ages = array("Katniss"=>"16", "Peeta"=>"16", "Gale"=>"18");
OR
$ages['Katniss'] = "16";
$ages['Peeta'] = "16";
$ages['Gale'] = "18";
```

- Usage

```
$ages['Gale']      18
```

http://www.w3schools.com/PHP/php_arrays.asp

PHP Loops

Familiar C++/Java syntax

```
while (condition) {
        statements;
}

do {
        statements;
} while (condition);

for (init; condition;
increment) {
        statements;
}
```

- Includes Perl-like foreach statement

```
foreach (array as item) {
        statements;
}

$arr = array ("one", "two");
foreach ($arr as $item) {
    echo $item . "<br />";
}
```

- Perl syntax is slightly different

http://www.w3schools.com/PHP/php_looping.asp

PHP Functions

- There are over 700 built-in functions available
  - http://www.w3schools.com/PHP/default.asp
- Writing your own functions
  - begin with the word function
    - syntax similar to JavaScript

```
function functionName () {
        statements;
}
```

http://www.w3schools.com/PHP/php_functions.asp

PHP Functions

- Functions with parameters

```
function functionName (parameters) {
        statements;
}
```

- Functions with return values

```
function functionName (parameters) {
        statements;
        return value;
}
```

http://www.w3schools.com/PHP/php_functions.asp

PHP Function Example

```
function add ($x, $y)
{
        $total = $x + $y;
        return $total;
}

echo "1 + 16 = " . add (1,16);
```

1 + 16 = 17

http://www.w3schools.com/PHP/php_functions.asp

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- **Ch 2 Code Example Demo/Walkthrough**

Up Next: MySQL
Assigned Reading: Chs 3, 10

Demo/Walkthrough Time

- Examples from Chapter 2 (pp. 29-83)

- First PHP Program
- Simple Movie Site
- Passing Variables
- Passing Information with Forms
- Conditionals
- Using Includes
- Using Functions
- Arrays

https://weiglevm.cs.odu.edu/~mweigle/textbook/ch02.htm