

Introduction to PHP

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What is PHP?

- PHP: Hypertext Processor
- Server-side scripting
- Free alternative to Microsoft ASP
- Can be embedded in HTML
- Similar syntax to Perl & C
- Frequently combined with MySQL

Basics

- File extension must be “.php”
- Start PHP code blocks with `<?php`
- End PHP code blocks with `?>`
- End lines with a `;`
- Comments (like C):
 - Single line: `// This is a comment`
 - Multi-line: `/* ... */`
- Write output with `echo "Hello world!";`
- Indicate variables with `$variableName`

Hello World!

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

Useful code snippets

- `phpinfo()` //server PHP configuration info
- `$_SERVER`//environment information; e.g.,
`$_SERVER['HTTP_USER_AGENT']`
- `$string . $secondString` //string concatenation is done via `'.'`
- `strlen($string)` //length of a string
- `strpos($string, $toFind)` //returns the position of the first occurrence of `$toFind` in `$string`

Forms & PHP

- formsTest.php

```
<form action="greetMe.php" method="post">  
  Enter your name: <input type="text" name="nameEntered">  
  <input type="submit">  
</form>
```

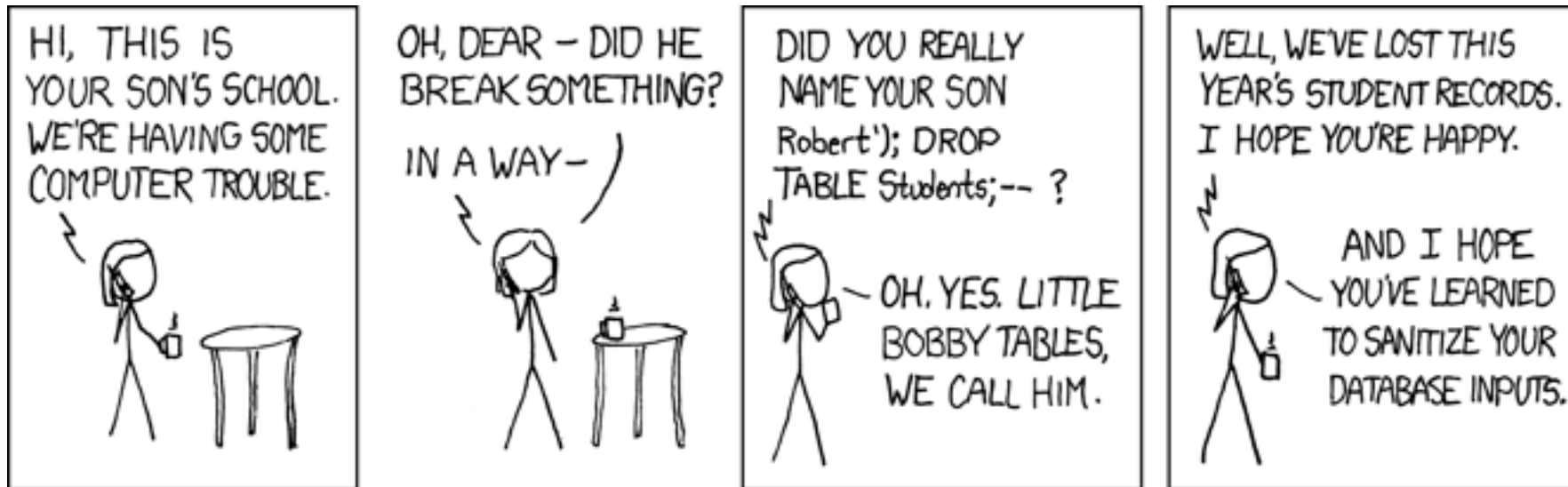
- greetMe.php

```
Hello, <?php echo $_POST["nameEntered"]; ?>!
```

Users break things

Enter your name: Justin <!--lastname-->

Submit



Sanitizing user input

- For echoing input to the user:
`htmlspecialchars()`
- For embedding strings into SQL:
`mysqli_real_escape_string()`
- For piping into shell commands:
`escapeshellcmd()`
`escapeshellarg()`
- etc.

HTTP Variable

- `$_GET` - variables when method is GET
 - Variables are in the query string
- `$_POST` - variables when method is POST (previous example)
 - Form data is not present in the query string
 - Frequently used when passing credentials
- `$_COOKIE` - values stored in the browser's cookies for the page
- `$_REQUEST` - associative array of `$_GET`, `$_POST`, and `$_COOKIE`

Data Structures

- Arrays

- `$names = array("John","Mike","Steve")`
- `echo $names //Array`
- `print_r($names); //Array ([0] => John [1] => Mike [2] => Steve)`

- Key-value pairs

- `$scores = array(
"Old Dominion" => 20,
"Virginia Tech" => 10);`

Loops

```
foreach(array as key => value){  
    //statements  
}
```

```
foreach(array as value){  
    //statements  
}
```

Functions

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

Objects

```
class Person {  
    function __construct($name){  
        $this->name = $name;  
    }  
    function whatDoYouDo(){  
        echo $this->name." dances!";  
    }  
}
```

```
class Programmer extends Person {  
    function startCoding($language){  
        echo $this->name." is coding in ".$language."!";  
    }  
    function whatDoYouDo(){  
        echo $this->name." codes!";  
    }  
}
```

```
$mary = new Person("Mary");  
$mary->whatDoYouDo();  
$john = new Programmer("John");  
$john->whatDoYouDo();  
$john->startCoding("PHP");
```

Examples

- Hello World:
<http://www.cs.odu.edu/~jbrunelle/cs518/examples/helloworld.php>
- Hello World 2:
<http://www.cs.odu.edu/~jbrunelle/cs518/examples/helloworld2.php>
- phpinfo: <http://www.cs.odu.edu/~jbrunelle/cs518/examples/phpinfo.php>
- Various variables:
<http://www.cs.odu.edu/~jbrunelle/cs518/examples/otherThings.php>
- Using Classes:
<http://www.cs.odu.edu/~jbrunelle/cs518/examples/classes.php>
- Using forms: <http://www.cs.odu.edu/~jbrunelle/cs518/examples/forms.html>
- Using POST: <http://www.cs.odu.edu/~jbrunelle/cs518/examples/postit.php>
- Using GET: <http://www.cs.odu.edu/~jbrunelle/cs518/examples/greetMe.php>