zend The PHP Company

Function Junction

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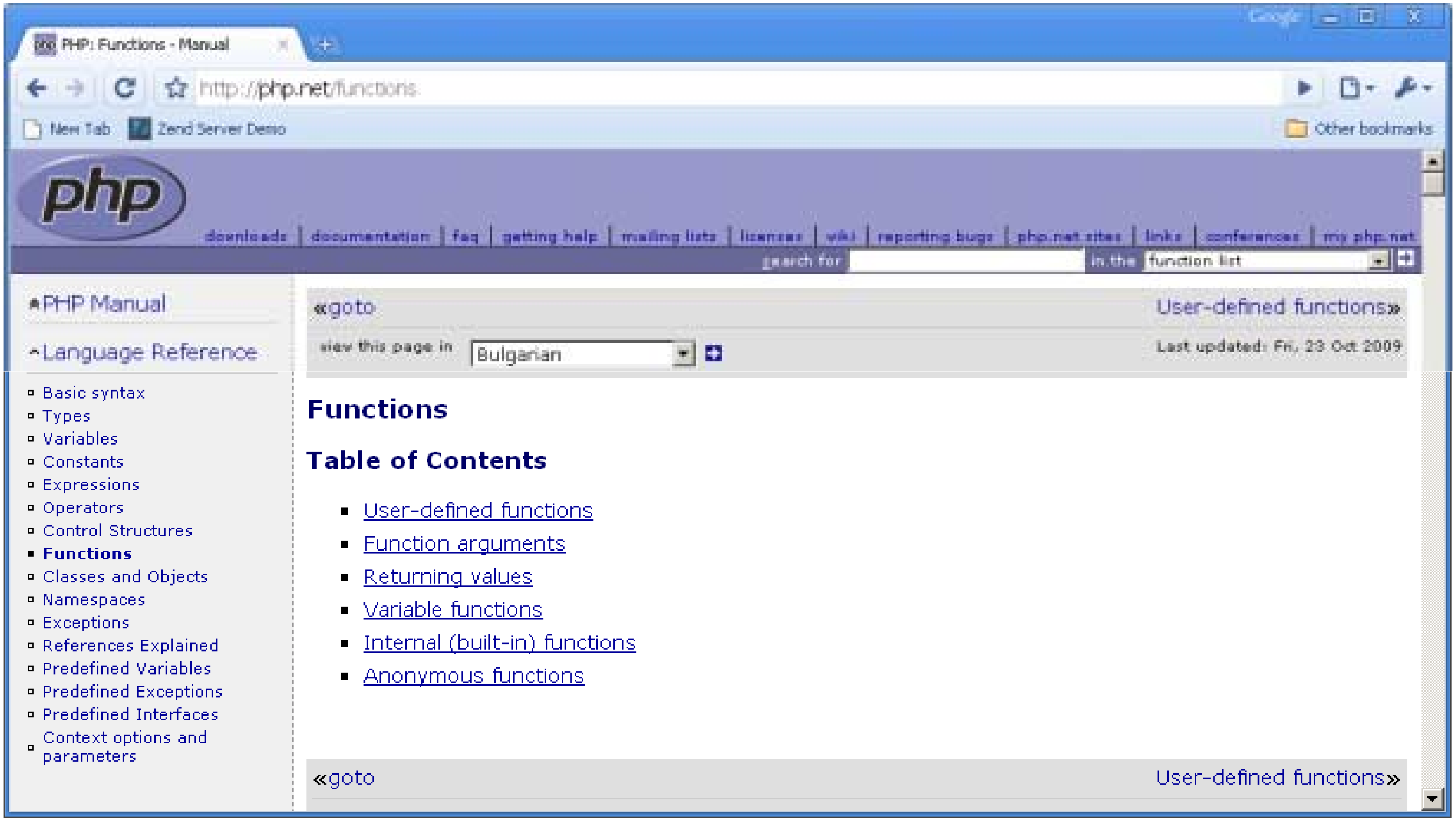
Agenda

- What are functions in PHP?
- Base functions in PHP
- Home grown function
- Data access function
- Q&A

What are functions in PHP?

- What’s so great about functions?
- Remember life before subroutines?
- Need to organize code
- Before OOP, functions was all they had!
- Also the basis for language
- PHP supports more than 5000 functions
- And you can create them!
- www.php.net/functions

http://php.net/functions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search for
in the function list

- PHP Manual
- Language Reference
  - Basic syntax
  - Types
  - Variables
  - Constants
  - Expressions
  - Operators
  - Control Structures
  - **Functions**
  - Classes and Objects
  - Namespaces
  - Exceptions
  - References Explained
  - Predefined Variables
  - Predefined Exceptions
  - Predefined Interfaces
  - Context options and parameters

«goto User-defined functions»

view this page in Bulgarian

Last updated: Fri, 23 Oct 2009

Functions

Table of Contents

- User-defined functions
- Function arguments
- Returning values
- Variable functions
- Internal (built-in) functions
- Anonymous functions

«goto User-defined functions»

More on functions...

- Functions come from 1 of 3 places
  - Built-in
    - Part of base PHP
  - Extensions
    - Components of modules like image functions in GD
  - User defined
    - You will create these!
- You may have been using functions…
  - db2_connect()
  - print_r
  - strtoupper
  - Etc.

Function fundamentals

- **Can accept parameters**
- **Will always return a value**
- **Maintain scope of control within**

- **Echo is a construct, not a function**
  - Does not return a value

Base PHP Functions

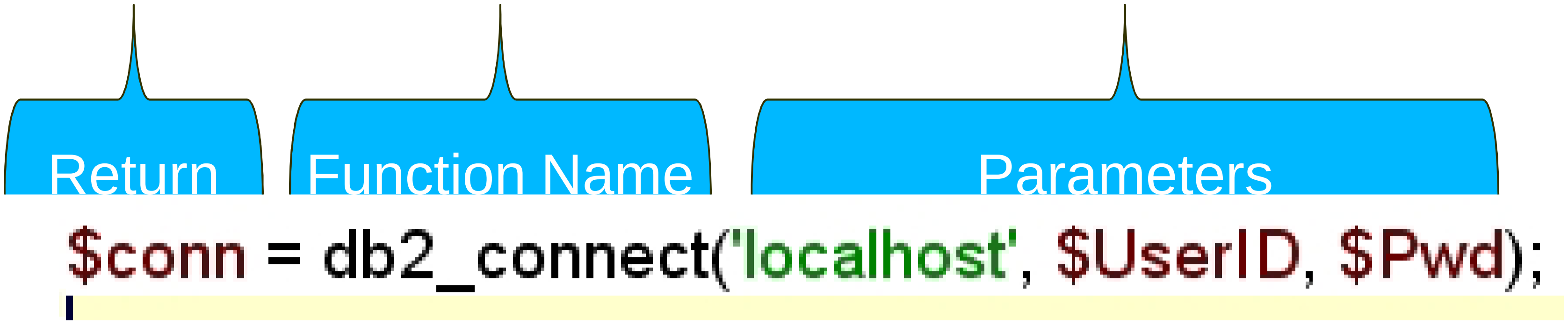
What do functions look like?

Function call has three major parts:

Function Name - Required

Parameters - Optional

Return Value – Always returned, default null



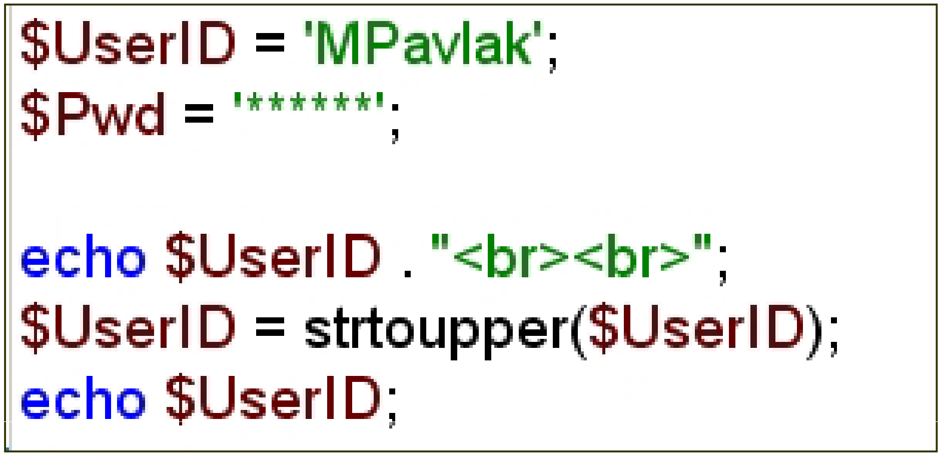
Return

Function Name

Parameters

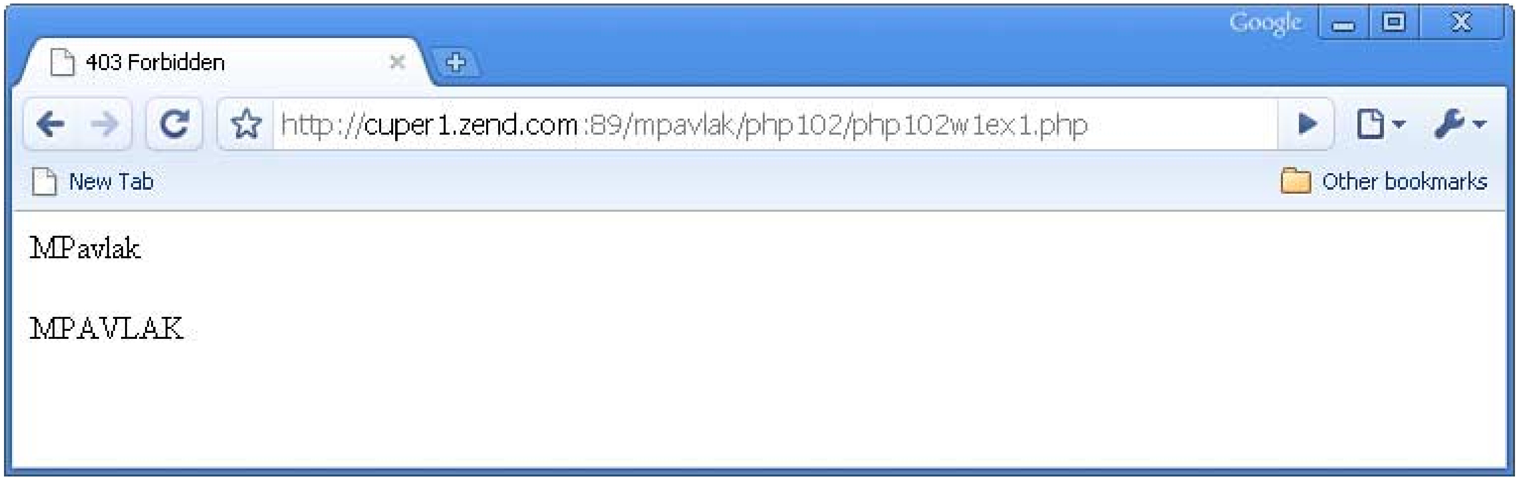
```
$conn = db2_connect('localhost', $UserID, $Pwd);
```

Functions in action - Simple



```php
$UserID = 'MPavlak';
$Pwd = '*******';

echo $UserID . "<br><br>";
$UserID = strtoupper($UserID);
echo $UserID;
```

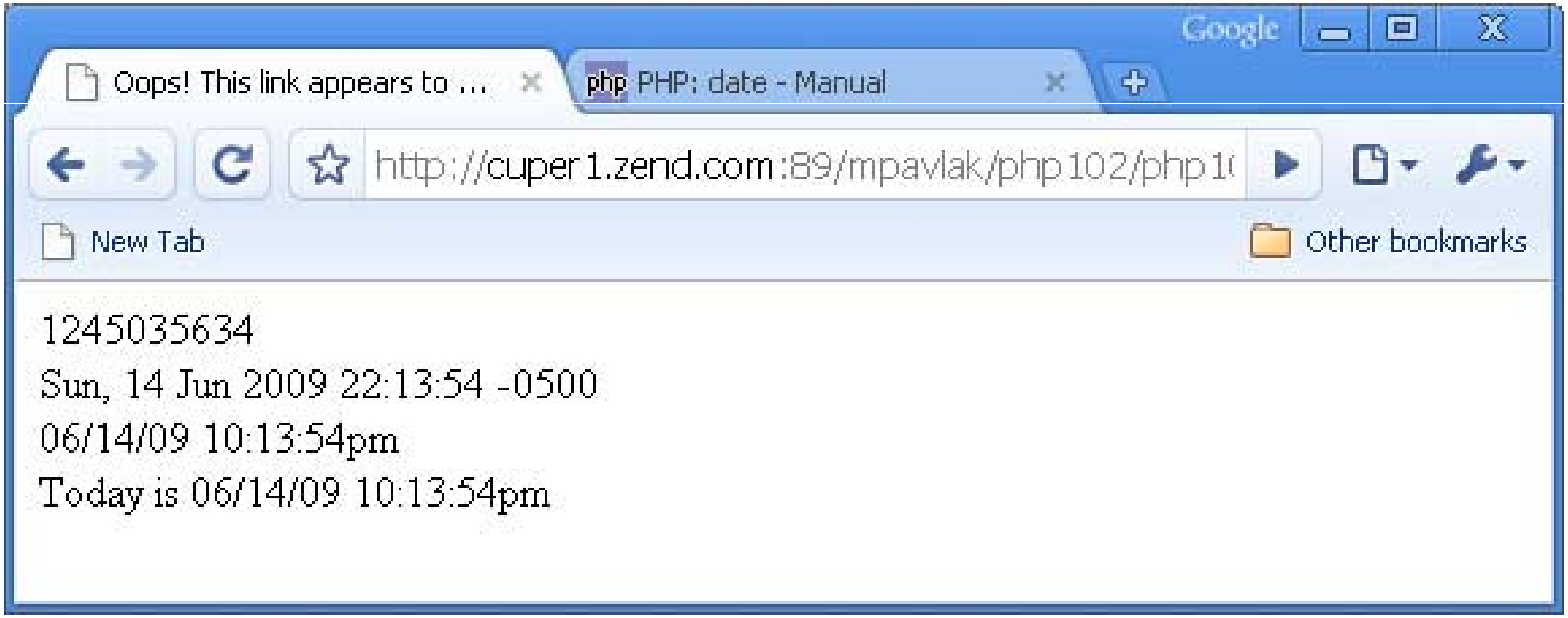


```
MPavlak

MPAVLAK
```

How do you get a date?

```
$currentTime = time();  print_r($currentTime); echo "<br>";
$currentTime = date(r);  print_r($currentTime); echo "<br>";
$currentTime = date("m/d/y g:i:sa");  print_r($currentTime); echo "<br>";
echo "Today is $currentTime";
```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PHP: date - Manual
http://cuper1.zend.com:89/mpavlak/php102/php1(
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```
1245035634
Sun, 14 Jun 2009 22:13:54 -0500
06/14/09 10:13:54pm
Today is 06/14/09 10:13:54pm
```

More built in functions…

- **About 5,000 in base and extensions**
- **Gettype – Can return the variable type but…**
  - Can give you incorrect info like String 0 returns Bool
- **Use is_* functions**

Is_array()	Is_object()
Is_bool()	Is_resource()
Is_int()	Is_scalar()
Is_numeric()	Is_string()

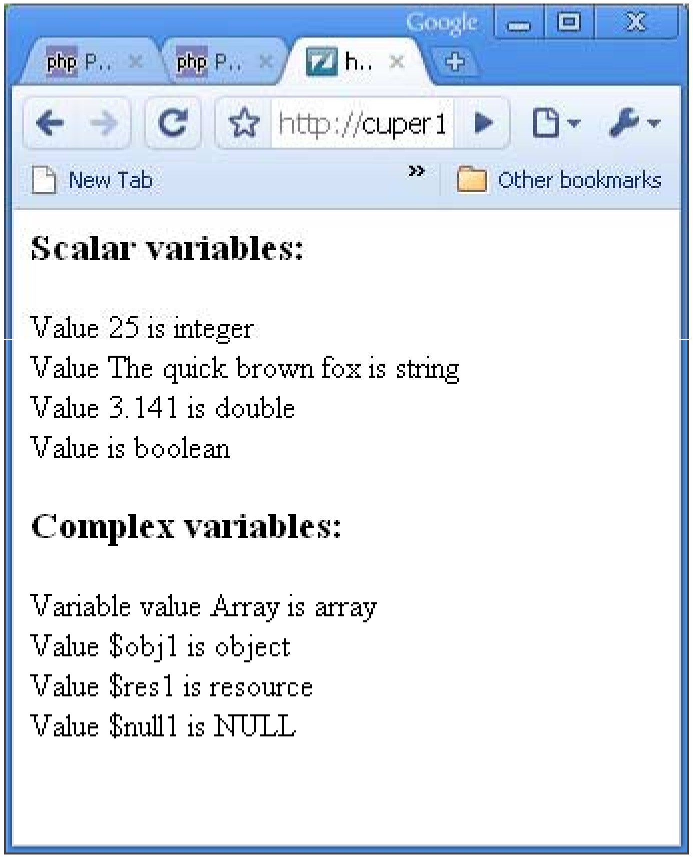
Gettype…

```
// Scalar
$Int1 = 25;     $str1 = 'The quick brown fox';
$flt1 = 3.141;  $bool1=false;

// Complex
$arr1 = array('Dog','Cat');  $obj1 = new stdClass();
$res1 = i5_connect("", "PHPUSER","phpuser");    $null1 = null;

echo "<h3>Scalar variables:</h3>";
echo "Value $Int1 is " . gettype($Int1);
echo "<br>Value $str1 is " . gettype($str1);
echo "<br>Value $flt1 is " . gettype($flt1);
echo "<br>Value $bool1 is " . gettype($bool1);

echo "<h3>Complex variables:</h3>";
echo "Variable value $arr1 is " . gettype($arr1);
echo '<br>Value $obj1 is ' . gettype($obj1);
echo '<br>Value $res1 is ' . gettype($res1);
echo '<br>Value $null1 is ' . gettype($null1);
```



Scalar variables:

Value 25 is integer
Value The quick brown fox is string
Value 3.141 is double
Value is boolean

Complex variables:

Variable value Array is array
Value $obj1 is object
Value $res1 is resource
Value $null1 is NULL

User Defined Functions

User Defined Functions

- PHP version of sub-procedure (subroutine)
- Programmer defines action, input and results
- This is how applications are built
- Modular components, pulled together

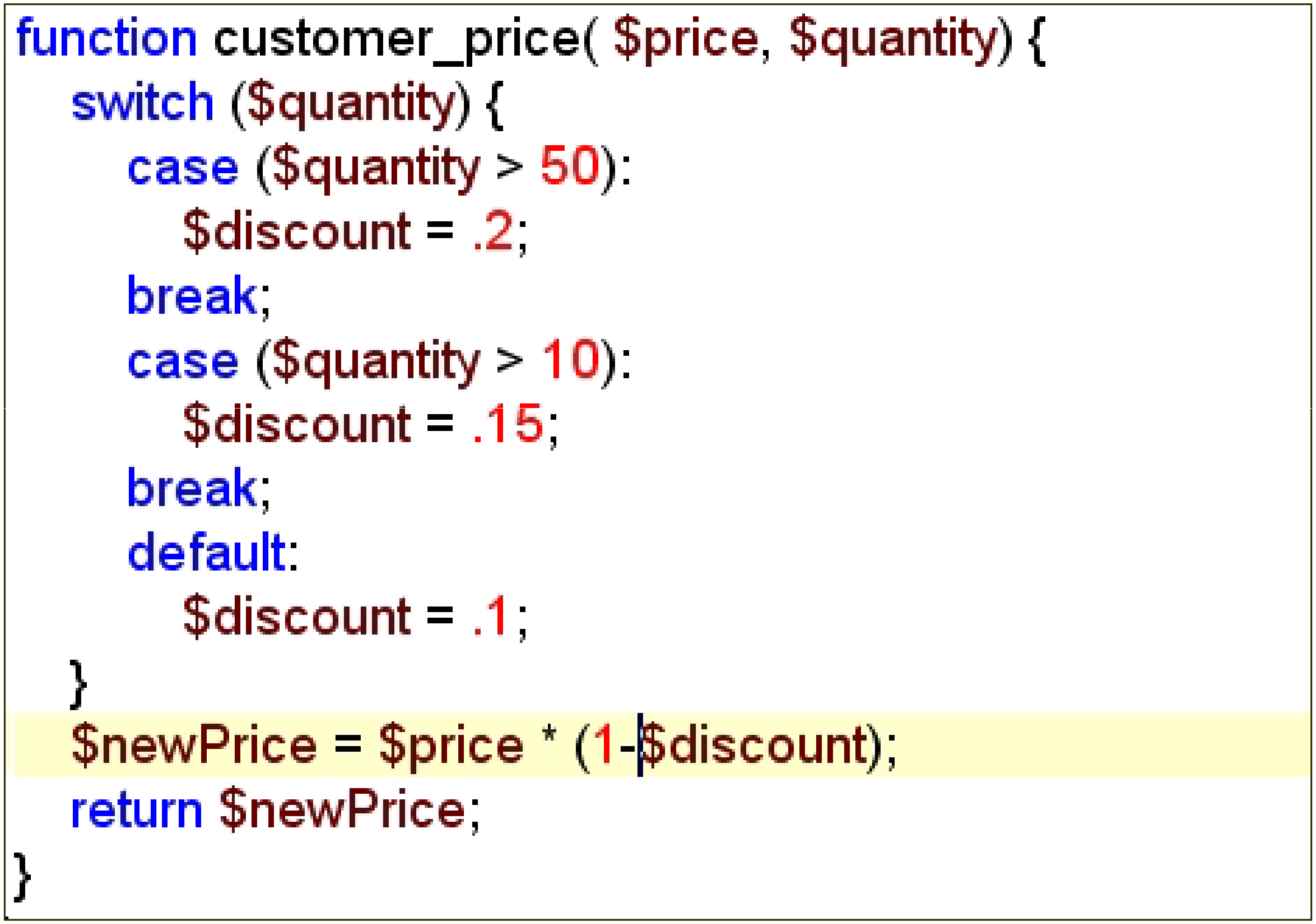
Rules for creating functions

- **See php.net for more details**
  - Must have name
  - Parameters are optional, you test inside function
  - Function always returns a value, even if you don’t
  - Function variables have scope
  - Builds suspense for OOP, but not yet…

Let’s create a function

- **Create a pricing function**
  - Called with a price & quantity
  - Will add standard discount based on quantity
    - Qty 1-10 gives 10%
    - Qty 11-50 gives 15%
    - Qty > 50 gives 20%
  - Return adjusted price

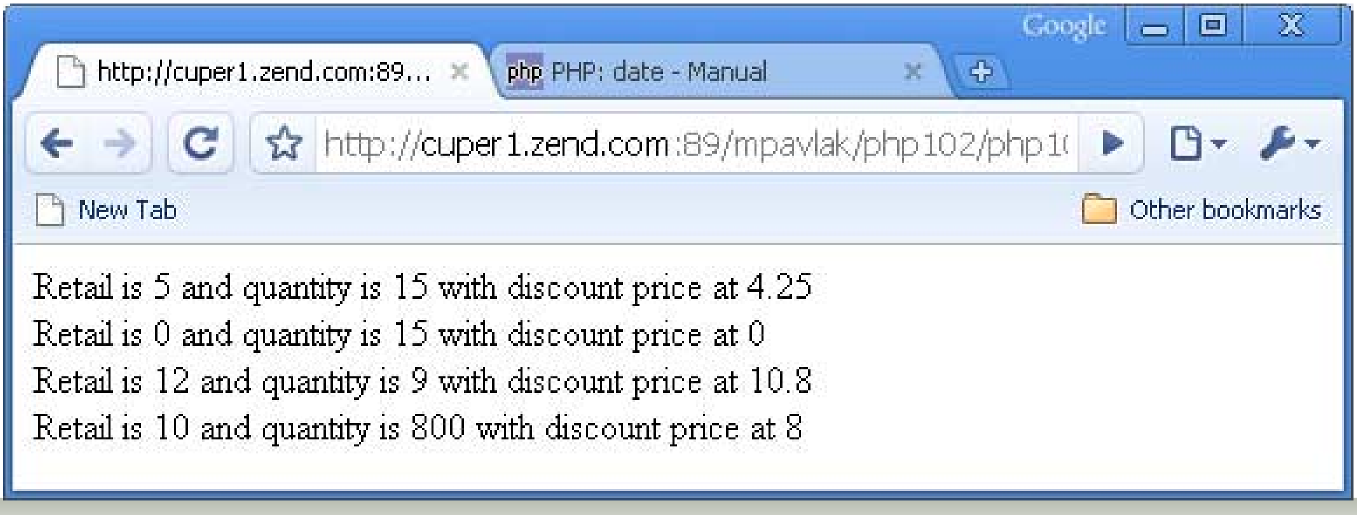
Code for the function



```php
function customer_price( $price, $quantity) {
    switch ($quantity) {
        case ($quantity > 50):
            $discount = .2;
        break;
        case ($quantity > 10):
            $discount = .15;
        break;
        default:
            $discount = .1;
    }
    $newPrice = $price * (1-$discount);
    return $newPrice;
}
```

Test the function

```
$p1 = 5.00; $q1=15;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
$p1 = 0.00; $q1=15;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
$p1 = 12.00; $q1=9;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
$p1 = 10.00; $q1=800;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
```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PHP: date - Manual
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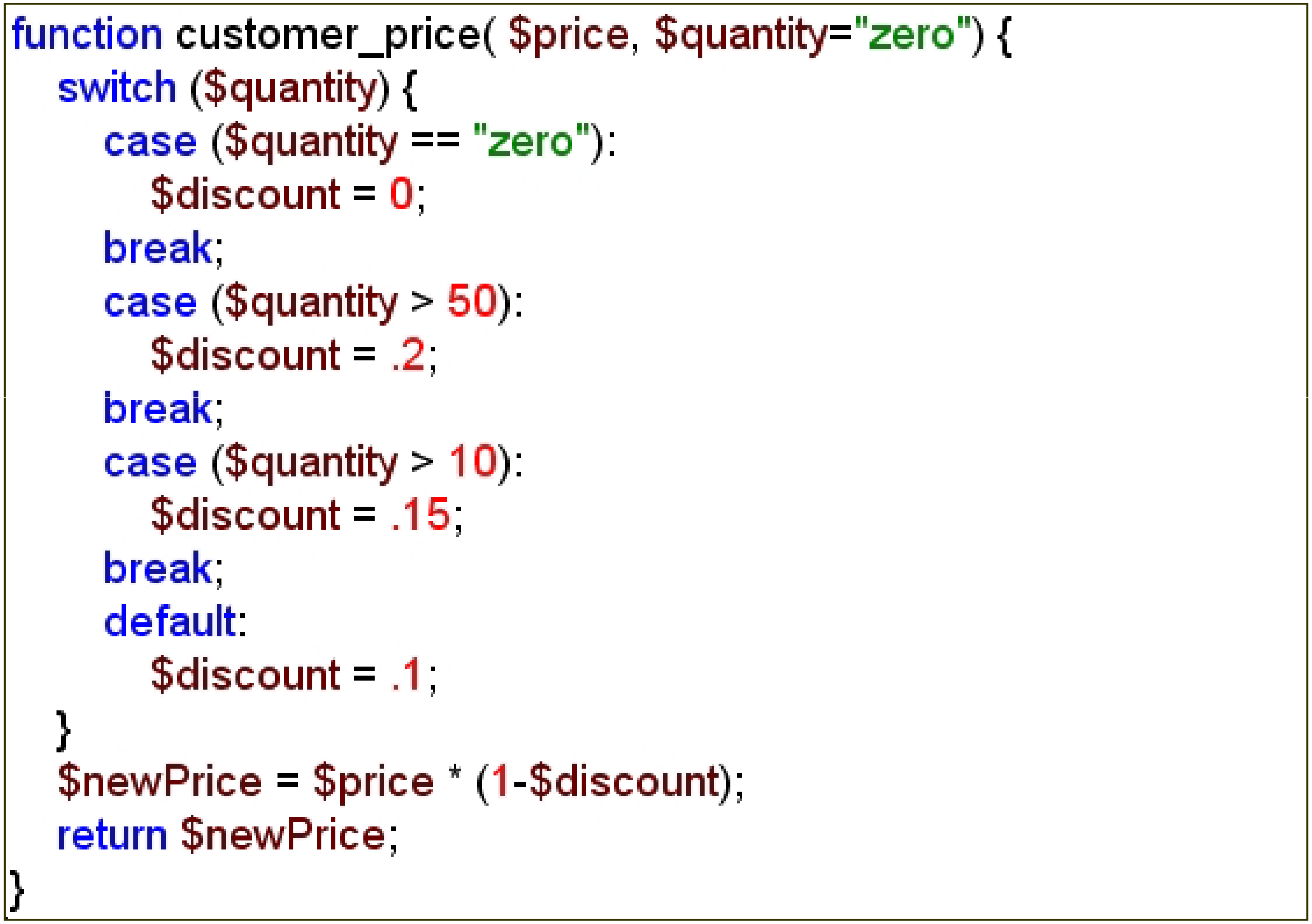
```
Retail is 5 and quantity is 15 with discount price at 4.25
Retail is 0 and quantity is 15 with discount price at 0
Retail is 12 and quantity is 9 with discount price at 10.8
Retail is 10 and quantity is 800 with discount price at 8
```

Change the spec…

- **What if I do no pass a quantity?**
  - Ask the BA…
  - BA states that you should default to retail
  - OK, let's go change the code!

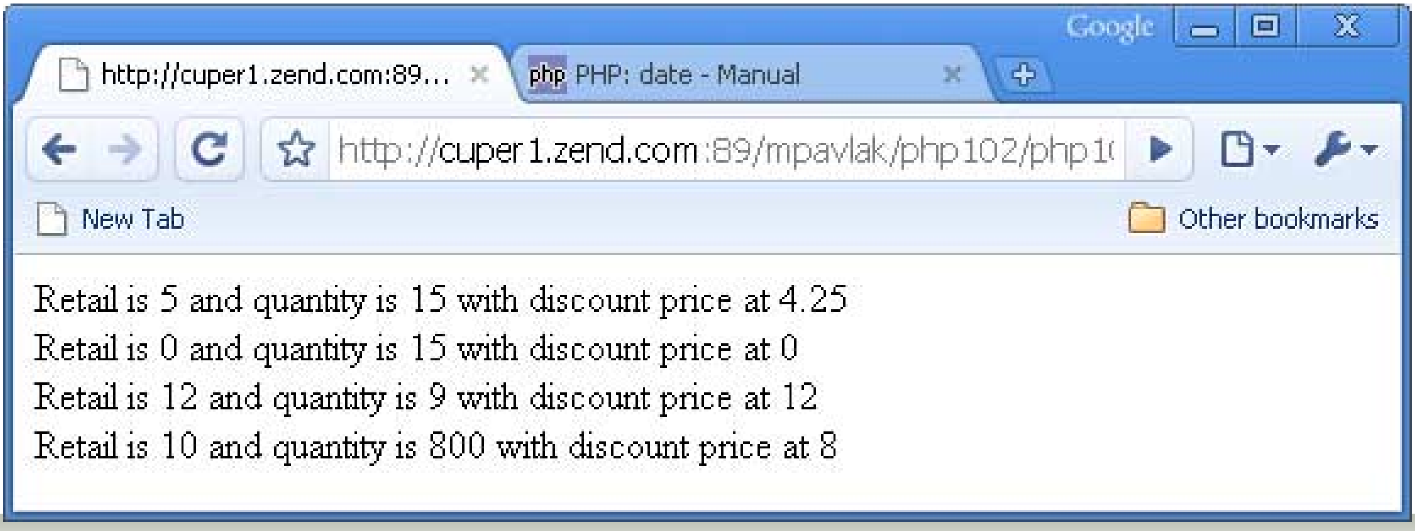
Modified code



```
function customer_price( $price, $quantity="zero") {
   switch ($quantity) {
      case ($quantity == "zero"):
         $discount = 0;
      break;
      case ($quantity > 50):
         $discount = .2;
      break;
      case ($quantity > 10):
         $discount = .15;
      break;
      default:
         $discount = .1;
   }
   $newPrice = $price * (1-$discount);
   return $newPrice;
}
```

Test the mod…

```
$p1 = 5.00; $q1=15;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
$p1 = 0.00; $q1=15;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
$p1 = 12.00; $q1=9;  $output=customer_price($p1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
$p1 = 10.00; $q1=800;  $output=customer_price($p1,$q1);
echo "Retail is $p1 and quantity is $q1 with discount price at $output<br>";
```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PHP: date - Manual
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```
Retail is 5 and quantity is 15 with discount price at 4.25
Retail is 0 and quantity is 15 with discount price at 0
Retail is 12 and quantity is 9 with discount price at 12
Retail is 10 and quantity is 800 with discount price at 8
```

Scope

- **Variables have scope, much like RPG ILE**
  - Function keeps its own set of variables
  - Global keyword can change all that (RPG III)
  - Better to pass, globals can’t be trusted
- **Static variables**
  - Persistence from call to call

Parameters

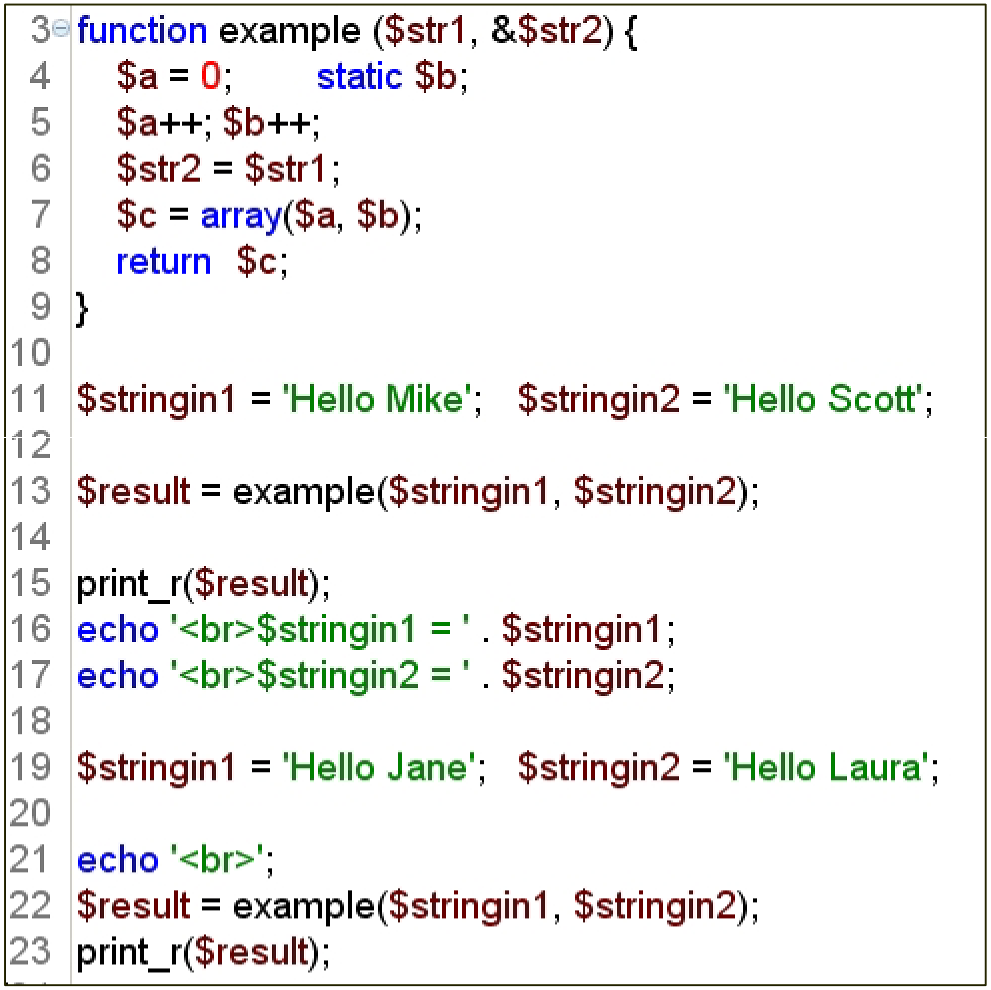
- **Default**
  - Assign value in interface
- **Pass by value**
  - This is the default behavior
- **Pass by reference**
  - This is done with & before the variable in the interface.
- **Variable number**
  - func_get_args()
  - func_num_args()
  - func_get_arg(argument_#)

Return

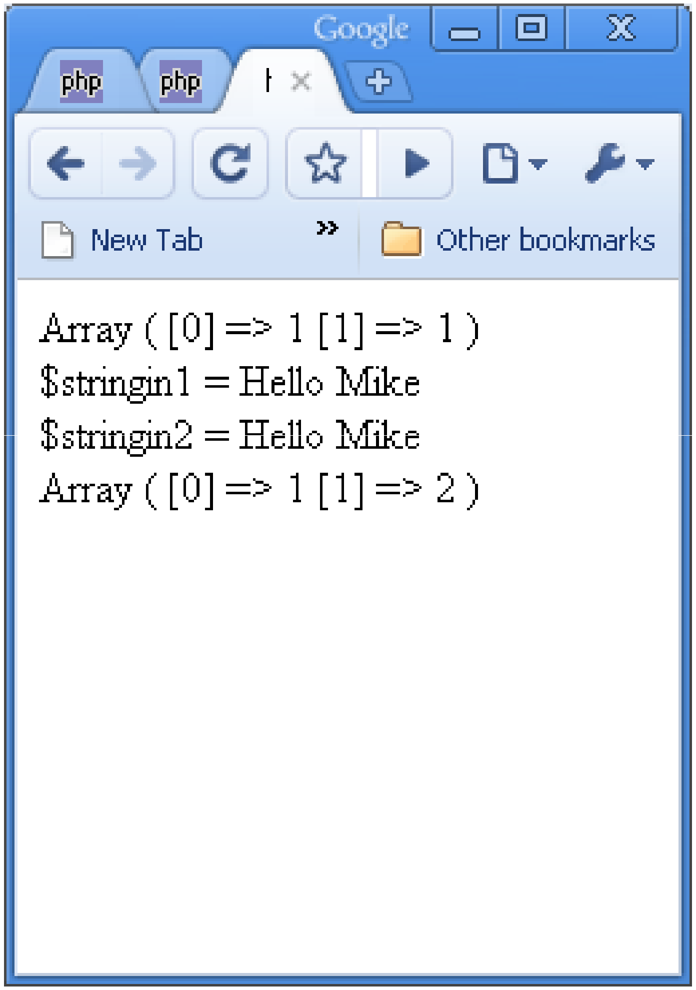
- Can only return one value
- If you want to return more than one, try array!

- Let’s look at an example that shows all of these…

A little of everything…



```php
function example ($str1, &$str2) {
    $a = 0;       static $b;
    $a++; $b++;
    $str2 = $str1;
    $c = array($a, $b);
    return  $c;
}

$stringin1 = 'Hello Mike';   $stringin2 = 'Hello Scott';

$result = example($stringin1, $stringin2);

print_r($result);
echo '<br>$stringin1 = ' . $stringin1;
echo '<br>$stringin2 = ' . $stringin2;

$stringin1 = 'Hello Jane';   $stringin2 = 'Hello Laura';

echo '<br>';
$result = example($stringin1, $stringin2);
print_r($result);
```

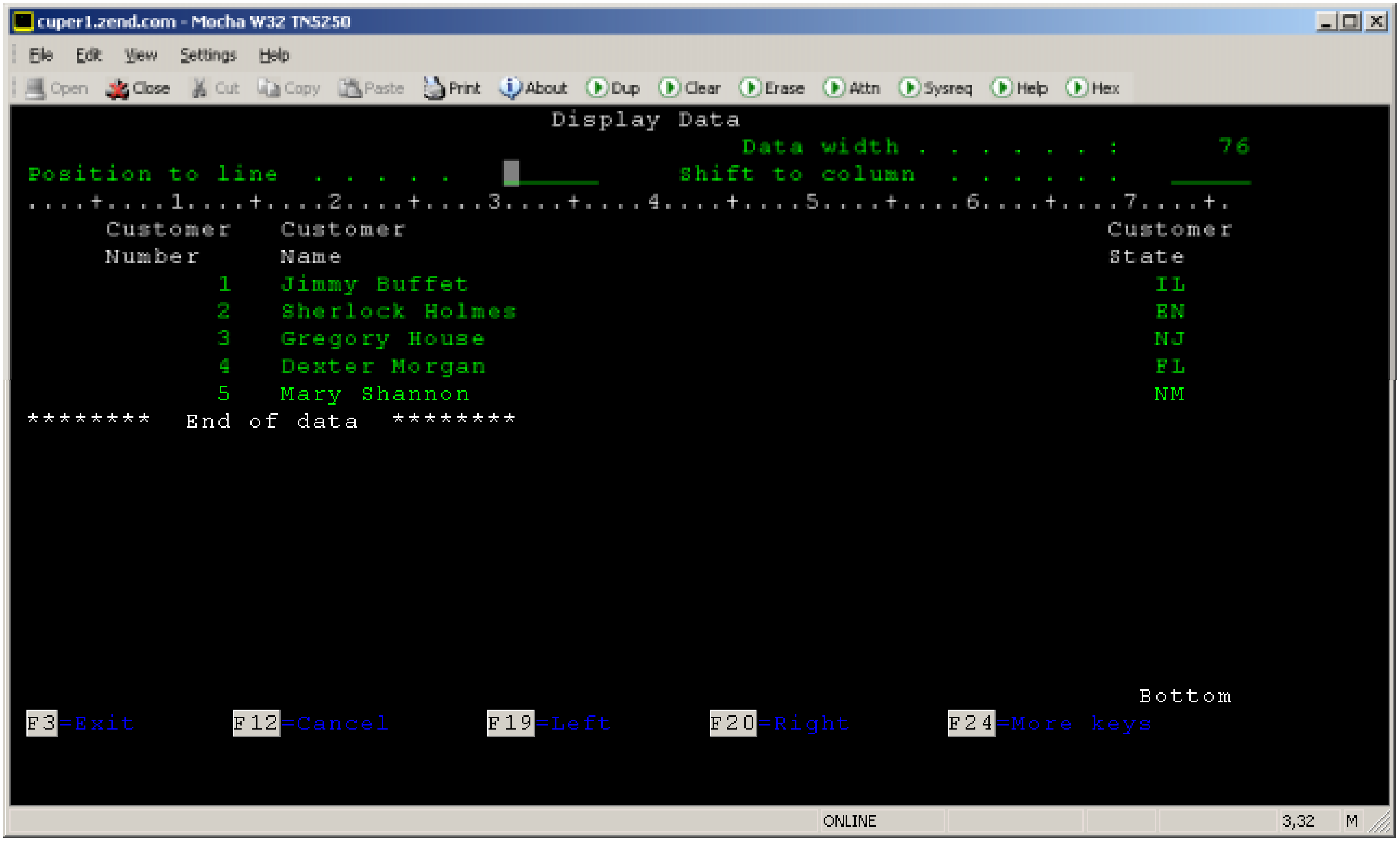


```
Array ( [0] => 1 [1] => 1 )
$stringin1 = Hello Mike
$stringin2 = Hello Mike
Array ( [0] => 1 [1] => 2 )
```

Data Access Function

- **Build PHP script using functions**
- **Pass values rather than use global variables**
- **Analyze function activity with Code Profiler**

Raw Data in DB2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File Edit View Settings Help
Open Close Cut Copy Paste Print About Dup Clear Erase Attn Sysreq Help Hex
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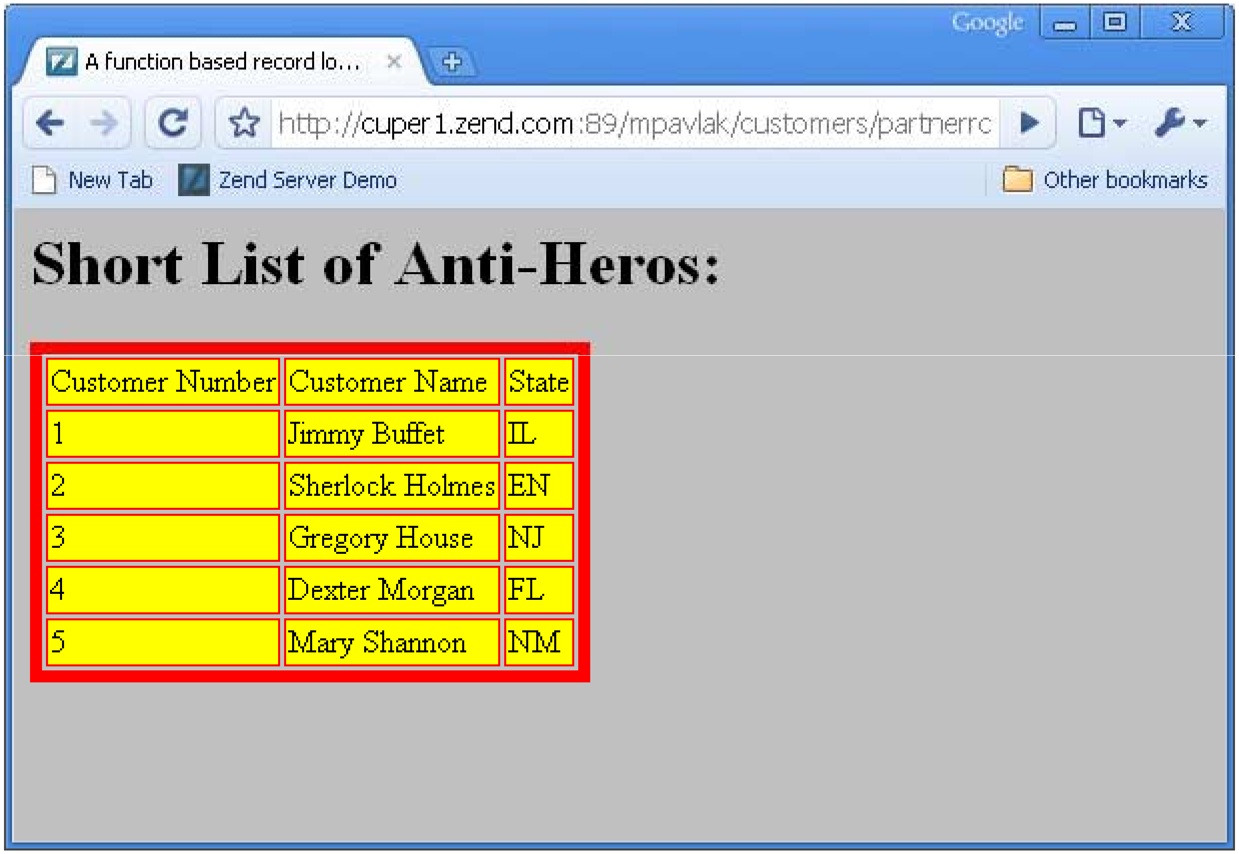
```
                                 Display Data
                                             Data width . . . . . . :       76
Position to line  . . . . .  _____       Shift to column  . . . . . .  _____
....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+.
     Customer   Customer                                    Customer
     Number     Name                                        State
            1   Jimmy Buffet                                   IL
            2   Sherlock Holmes                                EN
            3   Gregory House                                  NJ
            4   Dexter Morgan                                  FL
            5   Mary Shannon                                   NM
********  End of data  ********
                                                             Bottom
F3=Exit        F12=Cancel       F19=Left       F20=Right      F24=More keys
```

Web Page



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A function based record lo...
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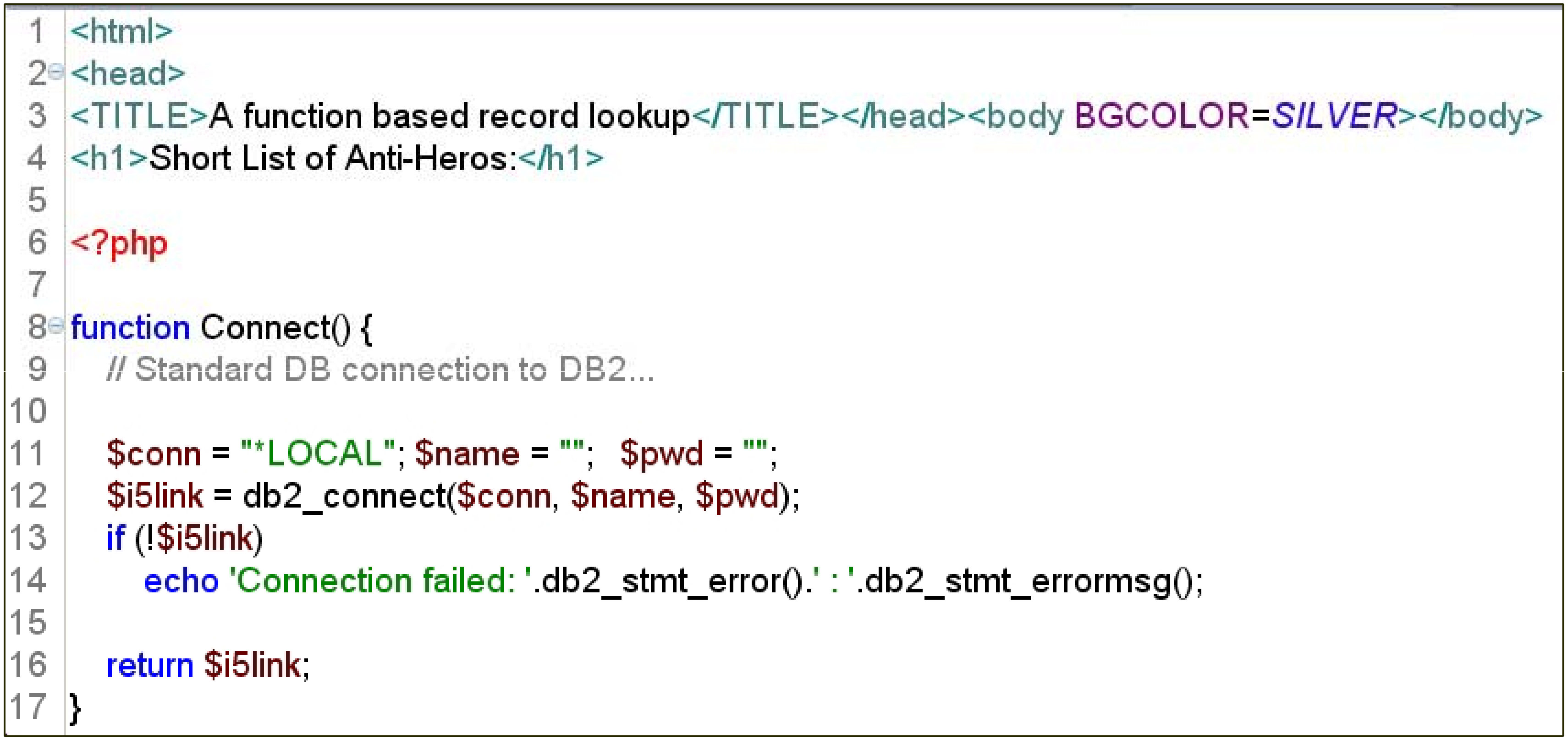
Short List of Anti-Heros:

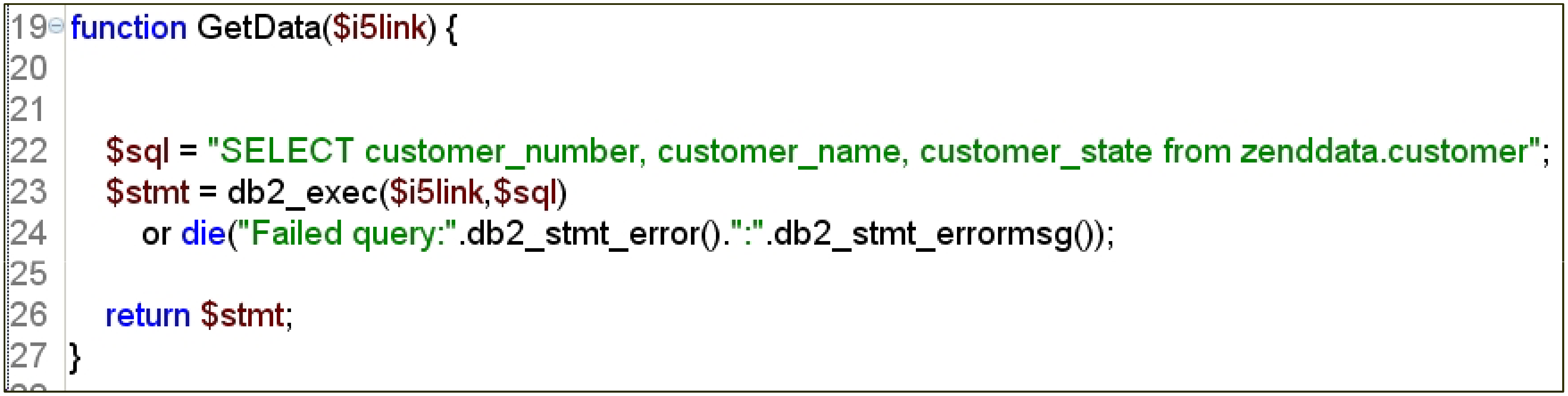
Customer Number	Customer Name	State
1	Jimmy Buffet	IL
2	Sherlock Holmes	EN
3	Gregory House	NJ
4	Dexter Morgan	FL
5	Mary Shannon	NM

Function 1 – Database connect



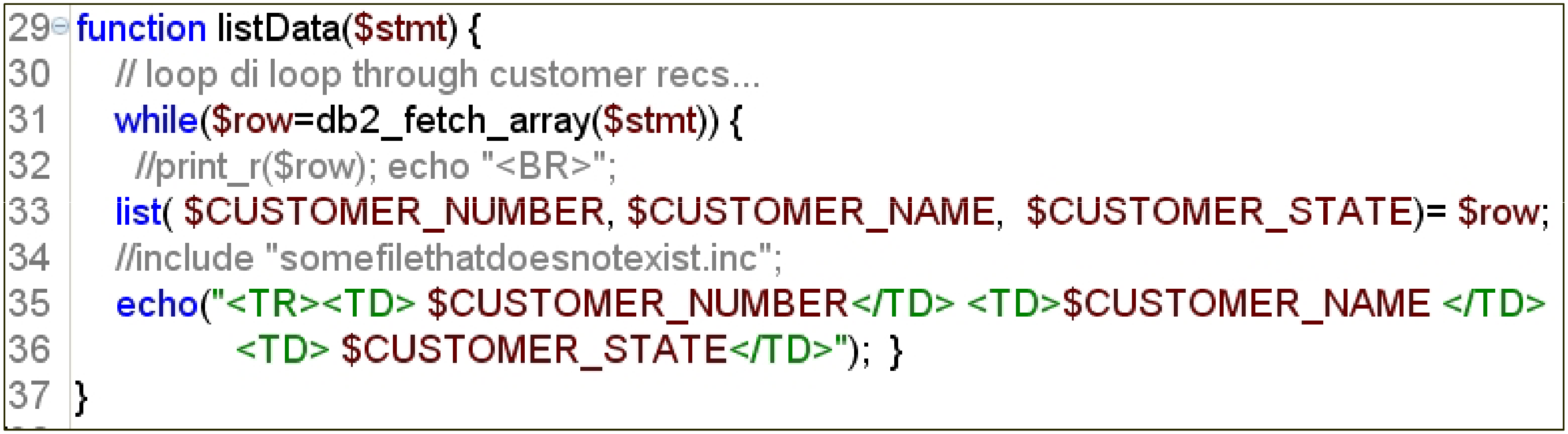
```
<html>
<head>
<TITLE>A function based record lookup</TITLE></head><body BGCOLOR=SILVER></body>
<h1>Short List of Anti-Heros:</h1>

<?php

function Connect() {
    // Standard DB connection to DB2...

    $conn = "*LOCAL"; $name = "";   $pwd = "";
    $i5link = db2_connect($conn, $name, $pwd);
    if (!$i5link)
        echo 'Connection failed: '.db2_stmt_error().' : '.db2_stmt_errormsg();

    return $i5link;
}
```

Function 2 – Query execute



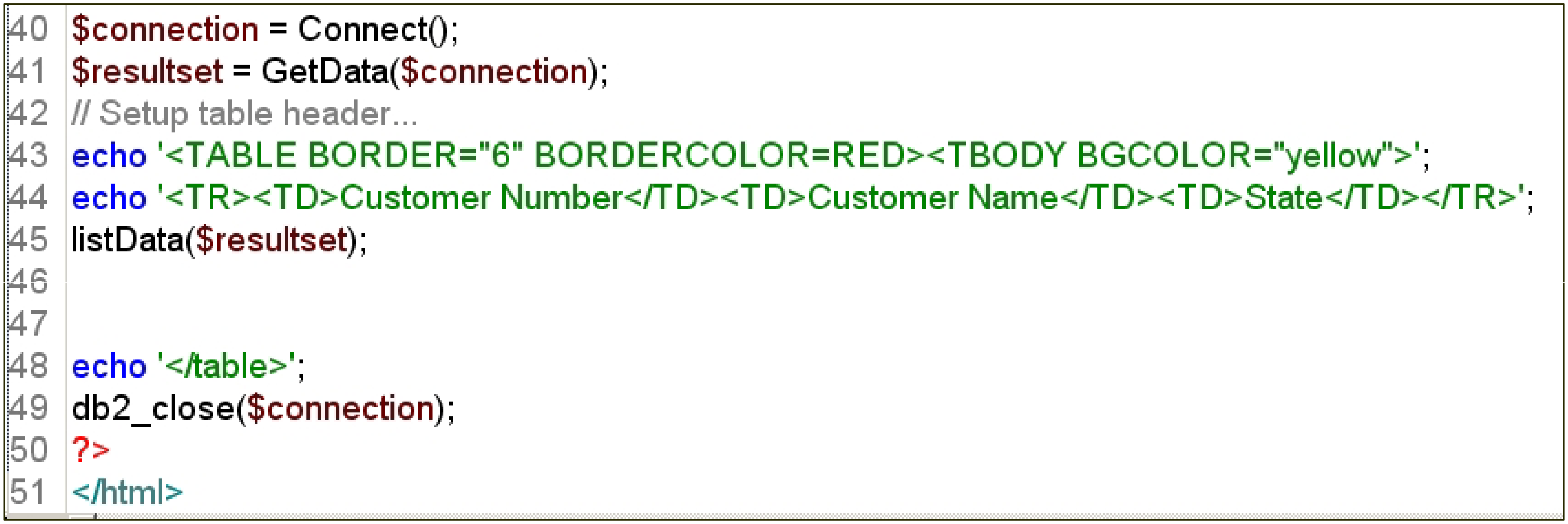
```php
function GetData($i5link) {


    $sql = "SELECT customer_number, customer_name, customer_state from zenddata.customer";
    $stmt = db2_exec($i5link,$sql)
        or die("Failed query:".db2_stmt_error().":".db2_stmt_errormsg());

    return $stmt;
}
```

Function 3 – Read and load data



```
function listData($stmt) {
    // loop di loop through customer recs...
    while($row=db2_fetch_array($stmt)) {
      //print_r($row); echo "<BR>";
    list( $CUSTOMER_NUMBER, $CUSTOMER_NAME,  $CUSTOMER_STATE)= $row;
    //include "somefilethatdoesnotexist.inc";
    echo("<TR><TD> $CUSTOMER_NUMBER</TD> <TD>$CUSTOMER_NAME </TD>
            <TD> $CUSTOMER_STATE</TD>");  }
}
```

Main line component



```
$connection = Connect();
$resultset = GetData($connection);
// Setup table header...
echo '<TABLE BORDER="6" BORDERCOLOR=RED><TBODY BGCOLOR="yellow">';
echo '<TR><TD>Customer Number</TD><TD>Customer Name</TD><TD>State</TD></TR>';
listData($resultset);


echo '</table>';
db2_close($connection);
?>
</html>
```

If time permits, demo code profile, etc.

- **Jump out to demo**

New book, new printing, same great stuff!

Kevin Schroeder from Zend's Global Services Group

with

Jeff Olen, co-author of…

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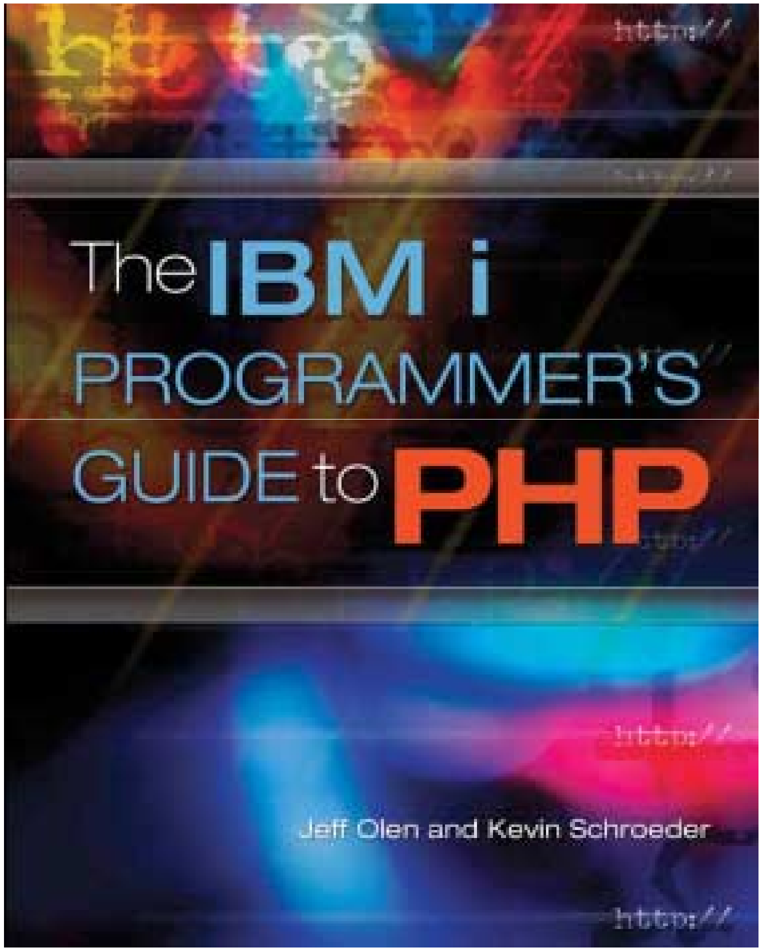

Thank you!!

Questions?

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