

Programming Concepts Syntax Guide:

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Helpful links

PHP.net language reference guide	PHP	
W3Schools PHP	PHP	See links in the left column
JavaScript Guide	JS	
W3Schools JavaScript	JS	See links in the left column

JavaScript Review and PHP Primer

Step 1:

Research the Programming Concept for JavaScript, PHP, and programming language of choice.

Step 2:

Comment what the code does into the research guide. Write the code into the research guide.

Note:

I recommend that you use the example I provided otherwise you will need to research and create your own examples where needed. Answer any supplementary questions in the comments

Step 3:

Test your JavaScript code in the web browser. Does it work?

Step 4:

Test your PHP code in the web browser. Does it work?

Note:

Shodor may not have the necessary resources to accommodate your programming language of choice. Therefore, the third programming language is a research project ONLY.

Step 5:

Send the URL to your newdev/JS_testing directory to Ernie and Aaron.

Send the URL to your newdev/PHP_testing directory to Ernie and Aaron.

Step 6:

Note:

You will not be sharing the testing files with the public. Only the research guide.

Basic Programming Concepts Review	How do you write that in JavaScript?	How do you write that in PHP?	Programming Language of choice. (Swift)
Other			
How do you comment code ?	<pre>// Comments are good // Single line comment /* Multiple line comments. It is a good practice to leave comments so others will understand what you were trying to accomplish. */</pre>	<pre>//single line comment/// /*multiple line comment*/</pre>	<pre>//Single Line Comment /*Multiple Line Comment*/</pre>
Variables			
1. How do you create a string variable • with double quotes • with single quote 2. What is the difference between single quotes vs	<pre>/*Creates a string variable called myName and stores a value of Ernie using double quotes*/ var myName = "Ernie"; /*Creates a string variable called myNameAgain and stores a value of Ernie using single quotes*/ var myNameAgain = 'Edinboro';</pre>	<pre>\$myName = "Ronith
"; echo(\$myName); \$myName2 = 'Gonsalves
'; echo(\$myName2); /*You can include variables in the string while using double quotes. The only way to escape single quotes is with a backslash(\)*/</pre>	<pre>//String Variable with double quotes Var myName = "Ronith" //cannot define a variable with single quotes</pre>

double quotes in php?			
How do you make an integer variable?	/*Creates an integer variable*/ var x = 5;	//Creating a Integer Variable \$x = 50;	//integer variable Var x = 32
How do I output a string, integer or variable to the screen	/*Outputs strings, variables, and integers to the screen and console*/ document.write("Hello World"); console.log(x);	//Displaying Variable to the Screen echo(\$x);	
How do you concatenate a string variable? • Concatenate the myName variable with the string "is great" • Concatenate the myName variable with the variable myNameAgain	/*Concatenating strings and variables*/ document.write(myName + " is great" + " "); document.write(myName + myNameAgain + " ");	//Concatenating Variables echo(\$myName . " is great"); echo(\$myName . \$myNameAgain . " ");	
String escape character			

Use the examples provided String escape characters • \' to escape single quote example string: 'Ernie's' • \" to escape double quote example output string: Ernie says, "Go Away!" • \\ escape backslash example output string: "8\2" • \\$ escape \$ dollar symbol PHP only example output string: "Display \$amount"	<pre>/*String escape characters*/ document.write('Ernie\'s
'); document.write("Ernie says, \"Go Away!\"
"); document.write('8\\2
');</pre>	<pre>//Escaping a Single Quote Using (\') echo('Ernie\'s' . "
"); //Escaping a Double Quote Using (\") echo("Ernie says, \"GO AWAY!\" . "
"); //Escaping a Backslash (\\) echo("8\\2" . "
"); //Escaping a Dollar Sign (\\$) echo("\\$ \$x" . "

");</pre>	
Arrays			

Create an index array of names and store the following values Levi, Aaron, Ernie	<pre>/*Creating an Array*/ var names = ["Levi", "Aaron", "Ernie"];</pre>	<pre>\$countries = array(" Croatia", " England", "Belgium", " France");</pre>	
Using the index array output index number 1	<pre>/* Outputting the second element in the array names*/ document.write(names[1] + "
");</pre>	<pre>echo(\$countries[1] . "
");</pre>	
Create an associative array with named keys . Your Key names should be apple, banana, orange. You want to store following values Red, yellow, orange	<pre>/*Making an Associative Arrays*/ var fruits = {apple : "Red", banana : "yellow", orange : "orange"};</pre>	<pre>\$fruits = array("Apple"=>"Red", "Banana"=>"yellow", "Orange"=>"orange"); echo("An Apple is " . \$fruits['Apple'] . "
");</pre>	
Math Operators		<pre>\$y = 6; \$z = 4;</pre>	
How do you use Arithmetic Operator Addition	<pre>/*Use the operator "+" to add*/ var a = 5 + 4; document.write(a + "
");</pre>	<pre>//Addition echo(\$y . ' + ' . \$z . ' = ' . (\$y + \$z) . "
");</pre>	

How do you use Arithmetic Operator Subtraction	/*Use the operator “-” to subtract*/ var b = 5 - 4; document.write(b + " ");	//Subtraction echo(\$y . ' - ' . \$z . ' = ' . (\$y - \$z) . " ");	
How do you use Arithmetic Operator Multiplication	/*Use the operator “*” to multiply*/ var c = 5 * 4; document.write(c + " ");	//Division echo(\$y . ' / ' . \$z . ' = ' . (\$y / \$z) . " ");	
How do you use Arithmetic Operator Division	/*Use the operator “/”to divide*/ var d = 5 / 4; document.write(d + " ");	//Multiplication echo(\$y . ' * ' . \$z . ' = ' . (\$y * \$z) . " ");	
How do you use Arithmetic Operator Modulus	/*Use the operator “%”to use modulus*/ var e = 5 % 4; document.write(e + " ");	//Modulus echo("The remainder of \$y / \$z is " . (\$y % \$z) . " ");	
How do you use Arithmetic Operator Exponentiation	/*Use the operator “**” to use exponents*/ var f = 5 ** 4; document.write(f + " ");	Only Available in PHP 5.3 and onward	
Assignment Operators			

How do you use Basic Assignment Operator	<pre>/*Use the operator "=" to use a basic assignment operator*/ var g = 6; document.write(g + "
");</pre>	<pre>//Basic Assignment \$x = \$z; echo(\$x . "
");</pre>	
How do you use Assignment Operator Addition	<pre>/*Use the operator "+=" to use an addition assignment*/ var h = 6; h += 3; document.write(h + "
");</pre>	<pre>//Assignment Addition \$a = (\$x += \$y); echo(\$a . "
");</pre>	
How do you use Assignment Operator Subtraction	<pre>/*Use the operator "-=" to use a subtraction assignment*/ var i = 6; i -= 3; document.write(i + "
");</pre>	<pre>//Assignment Subtraction \$b = \$x -= \$y; echo(\$b . "
");</pre>	
How do you use Assignment Operator Multiplication	<pre>/*Use the operator "*=" to use a multiplication assignment*/ var j = 6; j *= 3; document.write(j + "
");</pre>	<pre>//Assignment Multiplication \$c = \$x *= \$y; echo(\$c . "
");</pre>	
How do you use Assignment Operator Division	<pre>/*Use the operator "/=" to use a division assignment*/ var k = 6; k /= 3; document.write(k + "
");</pre>	<pre>//Assignment Division \$d = \$x /= \$y; echo(\$d . "
");</pre>	

How do you use Assignment Operator Modulus	<pre>/*Use the operator “%=” to use a modulus assignment*/ var l = 6; l %= 3; document.write(l + "
");</pre>	<pre>//Assignment Modulus \$e = \$x %= \$y; echo(\$e . "
");</pre>	
How do you increment a value	<pre>/*Use the operator “++” to use a increment assignment*/ var m = 6; m ++; document.write(m + "
");</pre>	<pre>//Increment echo(++\$x) . "
");</pre>	
How do you decrement a value	<pre>/*Use the operator “--” to use a decrement assignment*/ var n = 6; n --; document.write(n + "
");</pre>	<pre>//Decrement \$x = 4; echo(--\$x) . "
");</pre>	
Comparison Operators			
How do you use equal	<pre>/*the equal to operator is "=="*/ document.write(x == 9);</pre>	<pre>//Equals to Operator is "==" if (\$r == \$s) { echo('True
'); } else { echo('False
'); }</pre>	

How do you use identical	<pre>/*the identical to operator is "==="*/ document.write(x === 9);</pre>	<pre>//Identical Operator is "===" if (\$r === \$s) { echo('True
'); } else { echo('False
'); }</pre>	
How do you use not equal	<pre>/*the not equal to operator is "!="*/ document.write(x !== 9);</pre>	<pre>//Not equal to Operator is "!=" if (\$r !== \$s) { echo('True
'); } else { echo('False
'); }</pre>	
How do you use not identical	<pre>/*the not identical to operator is "<!="*/ document.write(x <!== 9);</pre>	<pre>//Not identical Operator is "<>" if (\$r <> \$s) { echo('True
'); } else { echo('False
'); }</pre>	
How do you use less than	<pre>/*the less than to operator is "<"*/ document.write(x < 9);</pre>	<pre>//Less than Operator is "<" if (\$r < \$s) { echo('True
'); } else {</pre>	

		<pre>echo('False
'); }</pre>	
How do you use greater than	<pre>/*the greater than to operator is ">"*/ document.write(x > 9);</pre>	<pre>//Greater than Operator is ">" if (\$r > \$s) { echo('True
'); } else { echo('False
'); }</pre>	
How do you use less than or equal to	<pre>/*the less than or equal to operator is "<="*/ document.write(x <= 9);</pre>	<pre>//Less than or equal to Operator is "<=" if (\$r <= \$s) { echo('True
'); } else { echo('False
'); }</pre>	
How do you use greater than or equal to	<pre>/*the greater than or equal to operator is ">="*/ document.write(x >= 9);</pre>	<pre>//Greater than or equal to Operator is ">=" if (\$r >= \$s) { echo('True

'); } else { echo('False

'); }</pre>	

Control Structures			
How do you use if	<pre>var score = 10; /*If statement*/ if (score >= 10) { document.write("Game Over
"); }</pre>	<pre>\$score = 4; //If Statement if (\$score == 4) { echo("Game Over" . "
"); }</pre>	
How do you use else	<pre>var score = 8; /*If/else statement*/ if (score >= 10) { document.write("Game Over
"); } else { document.write("Game In Progress
"); }</pre>	<pre>//If/Else Statement if (\$score == 5) { echo("Game Over" . "
"); } else { echo("In Progress" . "
"); }</pre>	
How do you use else if	<pre>var score = 0; /*If/else if statement*/ if (score == 10) { document.write("Game Over

"); } else if (score > 10){ document.write("Game In Progress

"); } else { document.write("No Game Being Played

"); }</pre>	<pre>//If/Else if Statement if (\$score == 5) { echo("Game Over" . "
"); } else if (\$score == 0) { echo("Not Started" . "
"); } else { echo("In Progress" . "
"); }</pre>	

How do you use switch	<pre> var y = 1; /*A Switch Statement*/ switch (y) { case 0: document.write("No

"); ; break; case1: document.write("Yes

");); break; default: document.write("Maybe

"); } </pre>	<pre> //Switch Statement switch (\$score) { case 3: echo('3 Goals Scores' . "

"); break; case 4: echo('4 Goals Scores' . "

"); Break; case 5: echo('5 Goals Scores' . "

"); break; } </pre>	
Logical Operators			
How do you use and	<pre> /*the 'and' operator is "&&" */ document.write(((x < 9) && (g == 6)) + "
"); </pre>	<pre> //The And Operator is "and" or "&&" if ((\$r == 5) && (\$s == 6)) { echo('True
'); } else { echo('False
'); } </pre>	

How do you use or	<pre>/*the 'or' operator is " " */ document.write(((x > 9) (g < 2)) + "
");</pre>	<pre>//The Or Operator is "or" or " " if ((\$r == 6) (\$s == 6)) { echo('True
'); } else { echo('False
'); }</pre>	
How do you use not	<pre>/*the 'not' operator is "!" */ document.write(!(x === 5)) + "

");</pre>	<pre>//The Not Operator is "!" if (!(\$s == 6)) { echo('True

'); } else { echo('False

'); }</pre>	
Loops			
How do you use for	<pre>var z; for (z = 0; z < 3; z++) { document.write("The Number of Goals:" + z + "
"); }</pre>	<pre>//For Loop \$fLoop; for (\$fLoop = 0; \$fLoop <=2; \$fLoop++) { echo("Number of for loops: \$fLoop
"); }</pre>	

How do you use while	<pre>var goals = 0; while (goals < 2) { document.write("The Number of Goals:" + goals + "
"); goals++; }</pre>	<pre>//While Loop \$wLoop = 0; while (\$wLoop <= 2) { echo("Number of while loops: \$fLoop
"); \$wLoop++; }</pre>	
How do you use do while	<pre>var goals_scored = 0; do { document.write("The Number of Goals:" + goals_scored + "
"); goals_scored++; } while (goals_scored < 2);</pre>	<pre>//Do While Loop \$dwLoop = 0; do { echo("Number of do while loops: \$dwLoop
"); \$dwLoop++; } while (\$dwLoop <= 2);</pre>	
Functions (user defined)			
How do you create a function	<pre>/*Creating a Function*/ function myMultiply() {}</pre>	<pre>//Creating a Function function myMultiply(){}</pre>	
How do you call that function	<pre>/*Calling the Function*/ myMultiply();</pre>	<pre>//Calling a Function myMultiply();</pre>	

How do you create a function that has one or more arguments	<pre>/*Creating a Function with multiple arguments*/ function testMultiply (d1 , d2) {}</pre>	<pre>//Creating a Function with multiple Arguments function testMultiply(\$d1 , \$d2) {}</pre>	
How do you call that function?	<pre>/*Calling a Function with multiple Arguments*/ testMultiply(6, 3);</pre>	<pre>//Calling a function with multiple Arguments testMultiply(6, 3)</pre>	
How do you return a value from a function	<pre>/*Returning a value for a function*/ function reMultiply (p1, p2) { return p1 * p2; }</pre>	<pre>//Returning a value from a function function reMultiply(\$p1, \$p2) { echo((\$p1 * \$p2) . "
"); } remultiply(6, 3)</pre>	

Useful Functions	JavaScript	PHP	Programming Language of choice.
String Functions		\$football = "Its coming Home";	
Variable String Length	<pre>/*String Length*/ var tree = "Oak Tree"; var tln = tree.length;</pre>	<pre>//String Length Function echo (strlen(\$football) . "
");</pre>	

	<pre>document.write(tln + "
");</pre>		
Variable Is a String	<pre>/* variable is a string*/ var wolf = "Howling at the 10 stars"; document.write(typeof wolf + "
");</pre>	<pre>//Confirms Variable is a String echo (gettype(\$football) . "
");</pre>	
Variable Find Values in String (* strpos)	<pre>/*Variable finds Values*/ var numbers = wolf.search("10"); document.write(numbers + "
");</pre>	<pre>//strpos function echo (strpos("Goals: 6", "6") . "
");</pre>	
Variable Returns Part of String (* substr)	<pre>/*Variable that is only part of a string*/ var moon = wolf.substr(15); document.write(moon + "
");</pre>	<pre>//substr function echo (substr(\$football, 10) . "
");</pre>	
Variable String make lowercase	<pre>/*Makes a Variable all lower case*/ var lwrcase = wolf.toLowerCase(); document.write(lwrcase + "
");</pre>	<pre>//Lowercase Function echo (strtolower(\$football) . "
");</pre>	
Variable String Uppercase first character in each word. (*ucwords)	<pre>/*Makes a Variable all lower case*/ var uprcase = wolf.toUpperCase();</pre>	<pre>//First letter in each word upper case Function echo (ucwords(\$football) . "

");</pre>	

	<code>document.write(uprcase + "
");< code=""></br>");<></code>		
<u>MORE String Function</u>			
You research a String Function 1	<pre>/*String Function 1: Index of*/ var howl = wolf.indexOf("Howl"); document.write(howl + "
");</pre>	<pre>//String Function 1: Uppercase Function echo (strtoupper(\$football) . "

");</pre>	
You research a String Function 2	<pre>/*String Function 2: Slice*/ var rdu = wolf.slice(-9); document.write(rdu + "
");</pre>	<pre>//String Function 2: Word Count echo (str_word_count(\$football) . "
");</pre>	
You research a String Function 3	<pre>/*String Function 3: Replace*/ var atl = wolf.replace("10 stars", "moon"); document.write(atl + "
");</pre>	<pre>//String Function 3: strpbrk (searches string for characters) echo (strpbrk(\$football, "ing") . "
");</pre>	
You research a String Function 4	<pre>/*String Function 4: Trim*/ var lax = rdu.trim(); document.write(lax + "
");</pre>	<pre>//String Function 4: Reverse a String echo (strrev(\$football) . "
");</pre>	

You research a String Function 5	<pre>/*String Function 5: Unicode*/ var jfk = wolf.charCodeAt(4); document.write(jfk + "

");</pre>	<pre>//String Function 5: Counts number of times a word appears echo (substr_count(\$football, "ing") . "

");</pre>	
Math Functions		<pre>\$denominator = rand(1, 10); \$numerator = rand(1, 10); \$fraction = (\$numerator/\$denominator);</pre>	
Math Functions Random Number	<pre>/*Random Number Math Function*/ var Randnum = Math.random(); document.write(Randnum + "
");</pre>	<pre>//Random Number echo (\$fraction . "
");</pre>	
Math Functions Floor	<pre>/*Floor Math Function*/ document.write(Math.floor (Randnum) + "
");</pre>	<pre>//Floor Function echo (floor(\$fraction) . "
");</pre>	
Math Functions Ceiling	<pre>/*Ceiling Math Function*/ document.write(Math.ceil(Randnum) + "
");</pre>	<pre>//Ceiling Function echo (ceil(\$fraction) . "
");</pre>	
Math Functions Not a Number	<pre>/*Not a Number Math Function*/ if(isNaN(Randnum)) {</pre>	<pre>//Not a Number if (is_nan(\$fraction)) {</pre>	

	<pre>document.write("Variable is not a number.
"); } else { document.write("Variable is a number.
"); }</pre>	<pre> echo "Is NOT a Number
"; } else { echo "Is a Number
"; }</pre>	
You research a Math Function 1	<pre>/*Math Function 1: Exponential*/ var power = Math.pow(6, 4); document.write(power + "
");</pre>	<pre>//Math Function 1: Cosine echo(cos(\$fraction) . "
");</pre>	
You research a Math Function 2	<pre>/*Math Function 2: Square Root*/ var sqroot = Math.sqrt(25); document.write(sqroot + "
");</pre>	<pre>//Math Function 2: Sqaure Root echo(sqrt(\$fraction) . "
");</pre>	
You research a Math Function 3	<pre>/*Math Function 3: Absolute Value*/ var absvalue = Math.abs(-9); document.write(absvalue + "
");</pre>	<pre>//Math Function 3: Exponent of e echo(exp(\$fraction) . "

");</pre>	
Array Functions			
Array Push	<pre>/*Array Push*/</pre>	<pre>//Array Push array_push(\$values, 7);</pre>	

	<pre>names.push(" Ron"); document.write(names + "
");</pre>	<pre>\$clength = count(\$values); for(\$x = 0; \$x < \$clength; \$x++) { echo \$values[\$x]; }</pre>	
Array Count Values	<pre>/*Array Count Values*/ var countValues = names.length; document.write(countValue s + "
");</pre>	<pre>//Array Count Values echo(count(\$values) . "
");</pre>	
Array Sorting	<pre>/*Array Sort*/ names.sort(); document.write(names + "

");</pre>	<pre>//Array Sorting sort(\$values); \$clength = count(\$values); for(\$x = 0; \$x < \$clength; \$x++) { echo \$values[\$x]; }</pre>	

More about PHP

more String literals	PHP		
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HEREDOC, and NOWDOC	
HEREDOC	<pre>\$here = <<< HEREDOC A "HEREDOC" will allow me make a string that is multiple lines long and use quotations easily HEREDOC; echo(\$here) . "
";</pre>
NOWDOC	Only available in PHP 5.3 and on <pre>//NOWDOC /*\$now = <<<'NOW' A HEREDOC displays the values for variables. The NOWDOC displays the name of the variable instead. The NOWDOC function displays the string as is. NOW; echo(\$now); */</pre>
Useful PHP Functions	
isset()	<pre>//isset function (Checks if Variable exists) if (isset(\$t)) { echo "Exists
"; } else{ echo "Does Not Exists
"; }</pre>
include_once()	//Include_once

	<code>include_once "index.php";</code>
<code>var_dump()</code>	<code>//var_dump</code> <code>var_dump(\$football);</code>
<code>print_r()</code>	<code>//print_r</code> <code>print_r(\$football);</code>