

PHP basic syntax

<?php *statements*; ?> PHP block
 <?= *expression* ?> Expression block

Example:
 <?php
 print "hello, world!";
 ?>

PHP types

int 42
float 3.14159
boolean true
string "hello" | 'goodbye'
gettype(val) "gettype(3.14)" -> "float"
is_type(val) "is_int(3.14)" -> false
casting (int) 3.14159 -> 3

PHP arithmetic

+ addition
 - subtraction, negation
 * multiplication
 / division (as real)
 % modulus

NB: 3 / 2 = "1.5", not "1"

PHP variables

`$name = expression;`
 = assign
 +=, *=, modify and assign
 ., etc.
 ++, -- increment, decrement
 & copy/pass reference (e.g., \$ref = &\$var_name)

PHP math functions

abs(n)
 absolute value
ceil(n), floor(n), round(n)
 round up/down/nearest int

PHP math functions (cont)

cos(n), sin(n), tan(n)**
 cosine, sine, tangent (in radians)

log(n), log10(n)
 logs

min(n1, n2, n3...), max(array)
 min or max of set or array

pow(base, exp)
 exponent

rand(n), rand(min, max)
 random integer 0...n or min...max

sqrt(n)
 square root

PHP string handling

Assign:
`$word = "hello";`

Get characters:
`$first_char = $word[0];`

Get length:
`$len = strlen($word);`

Concat:
`$full_name = $first . " " . $last (NOT "+")`

Convert:
`$var = 1 + "2 Live Crew" (equals 3); $var = 1 . 2 (equals "12")`

Interpreted strings:
 "Today is \$user_name's {age}th birthday"

Convert case:
`$var = strtoupper(string); (also strtolower)`

Replace string:
`$var = str_replace(target, new, source);`

Escape HTML:
`$var = htmlspecialchars(string);`

Trim:
`$var = trim(string); (also ltrim, rtrim)`

PHP boolean logic

`==, !=` "truthy" equality
`===, !==` exact equality
`>, <, >=, <=` greater than, etc.
`&&, ||, !` logical AND, OR, NOT
 Falsey values: 0, 0.0, "", "0", NULL, empty array, unset variables.
 Truthy values: all else

PHP loops

```
if (test1) { ...
} elseif (test2) { ...
} else { ...
}
for ($i = 0; $i < val; $i++) { ... }
while (test) { ... }
```

PHP print statement

print "text" Print with substitutions
print 'text' Print literal
`\n \t \' \" \` Escape characters

Example:
`print "hello $_name"`

PHP functions

Declaring functions
`function myfunc($param1, $param2, ...)`
`{ ... return $val; }`

Calling functions
`$result = myfunc($x1, $x2);`

Importing global variables
`global $my_var`

PHP include files

`include("filename");` imports file
 Also: `require()`, `include_once()`, `require_once()`

PHP arrays

Create new, empty array:

```
$name = array();
```

Create new, non-empty array:

```
$name = array(value0, value1, ...
valueN);
```

Set index:

```
$array[number/string] = value;
```

Get at index:

```
$val = $array[num/string];
```

Append to array:

```
array_push($array, value);
```

Explode (convert string to array):

```
$array = explode(delimiter, string);
```

Implode (convert array to string):

```
$string = implode(delimiter, array);
```

Iterate (for-each loop):

```
foreach ($array as $element) {state-
ments;}
```

Get array size:

```
$val = count($array);
```

Sort array:

```
sort($array);
```

Unpack array:

```
list($var1, $var2, $var3) = $array;
```

Check if index exists:

```
$boolean = isset($array[index])
```

PHP file I/O

file_get_contents(filename)

Returns file as string

file_put_contents(filename, text)

Saves text to file, erasing any prior file

file(filename [, FILE_IGNORE_NEW_LI- NES])

Returns file as array of strings (+/- "\n")

file_exists, is_readable, is_writable, etc.

Returns info about file, directory or disk

PHP file I/O (cont)

copy, rename, etc.

Modifies file or directory

scandir(directoryname)

Array of files in dir (including "." and "..")

glob(wildcard)

Array of files matching wildcard

```
// Read file as array (without "\n"), then save
```

```
$text = file_get_contents($filename);
```

```
$lines = explode("\n", $text);
```

```
$text = implode("\n", $lines);
```

```
file_put_contents($filename, $text);
```

```
// Get all files in directory (with "." "..")
```

```
$files = scandir($folder);
```

```
// Get all files in "data" (without "." "..")
```

```
$files = glob("data/*");
```

```
// Get all text files
```

```
$files = glob("*.txt");
```

