Array Types
In most scripting languages there are 3 different types of arrays: indexed, associative, and multi-dimensional. For example, dictionaries in Python are multidimensional arrays.

Iterating Through Arrays
- Traditional for loop: https://www.w3schools.com/php/php_looping_for.asp
- The foreach loop: https://www.w3schools.com/php/php_looping_foreach.asp

Useful Array functions
- array_merge
- array_reverse
- array_map
- usort and uasort
- list()

Callbacks
A callback is basically a function that is passed as a parameter to another function to be called at a later time. There are three ways to define callbacks:
- Traditional named functions (with quotes)
- Anonymous functions (inline, or saved to a variable)
- Closures (like anonymous functions, but contain scoped data)

Variables In Strings
Using variables inline:
You can place variables inside of a string if you use double quotes like this:
```php
echo "This is a variable: $data";
```
However, if the variable is an array you must put curly braces around it like this:
```php
echo "This is an array variable: {$data['details']}";
```

Using printf:
PHP has a printf function similar to other languages:
```php
printf("This is a variable: %s", $data);
```

Using heredoc:
When generating large sections of html or mixed string/variable data use heredoc:
```php
echo <<<STUFF
<body>
<div>{$data['details']}</div>
</body>
STUFF;
```
Useful String functions

- nl2br
- str_replace
- parse_str
- explode
-implode
- count_chars

Functions In PHP

Since PHP is loosely typed, there is no return type and parameter types are not enforced by default:

```php
function foo($x, $y){
    return $x + $y;
}
```

To enforce parameter and return types you must set strict typing using `declare(strict_types=1);`

Notice how the return type goes at the end of the function header:

```php
declare(strict_types=1);
function foo(int $x, int $y): int {
    return $x + $y;
}
```


Additional Reading:

- Context Shifting/Switching:
  - [https://www.youtube.com/watch?v=0b02- Wkpwo](https://www.youtube.com/watch?v=0b02- Wkpwo)
  - [https://www.software.com/devops-guides/context-switching](https://www.software.com/devops-guides/context-switching)