PHP Arrays

PHP array is an ordered map (contains value on the basis of key). It is used to hold multiple values of similar type in a single variable.

Advantage of PHP Array

Less Code: We don't need to define multiple variables.

Easy to traverse: By the help of single loop, we can traverse all the elements of an array.

Sorting: We can sort the elements of array.

PHP Array Types

There are 3 types of array in PHP.

1. Indexed Array
2. Associative Array
3. Multidimensional Array

PHP Indexed Array

PHP index is represented by number which starts from 0. We can store number, string and object in the PHP array. All PHP array elements are assigned to an index number by default.

There are two ways to define indexed array:

1st way:

```
$season=array("summer","winter","spring","autumn");
```

2nd way:

```
$season[0]="summer";
$season[1]="winter";
$season[2]="spring";
$season[3]="autumn";
```

Example

File: array1.php

```php
<?php
$season=array("summer","winter","spring","autumn");
echo "Season are: $season[0], $season[1], $season[2] and $season[3]";
?>
```

Output:

```
Season are: summer, winter, spring and autumn
```

File: array2.php

```php
<?php
$season[0]="summer";
$season[1]="winter";
$season[2]="spring";
$season[3]="autumn";
echo "Season are: $season[0], $season[1], $season[2] and $season[3]";
?>
```

Output:

```
Season are: summer, winter, spring and autumn
```

PHP Associative Array

We can associate name with each array elements in PHP using => symbol.

There are two ways to define associative array:

1st way:

```php
$salary=array("Sonoo"=>"350000","John"=>"450000","Kartik"=>"200000");
```

2nd way:

```php
$salary["Sonoo"]="350000";
$salary["John"]="450000";
$salary["Kartik"]="200000";
```

Example

File: arrayassociative1.php

```php
<?php
```

```
$salary=array("Sonoo"=>"350000","John"=>"450000","Kartik"=>"200000");
echo "Sonoo salary: ".$salary["Sonoo"]."<br/>";
echo "John salary: ".$salary["John"]."<br/>";
echo "Kartik salary: ".$salary["Kartik"]."<br/>";
?>
```

Output:

```
Sonoo salary: 350000
John salary: 450000
Kartik salary: 200000
```

File: arrayassociative2.php

```
<?php
$salary["Sonoo"]="350000";
$salary["John"]="450000";
$salary["Kartik"]="200000";
echo "Sonoo salary: ".$salary["Sonoo"]."<br/>";
echo "John salary: ".$salary["John"]."<br/>";
echo "Kartik salary: ".$salary["Kartik"]."<br/>";
?>
```

Output:

```
Sonoo salary: 350000
John salary: 450000
Kartik salary: 200000
```

PHP Indexed Array

PHP indexed array is an array which is represented by an index number by default. All elements of array are represented by an index number which starts from 0.

PHP indexed array can store numbers, strings or any object. PHP indexed array is also known as numeric array.

Definition

There are two ways to define indexed array:

1st way:

```
$size=array("Big","Medium","Short");
```

2nd way:

```
$size[0]="Big";
```

```
$size[1]="Medium";
$size[2]="Short";
```

PHP Indexed Array Example

File: array1.php

```php
<?php
$size=array("Big","Medium","Short");
echo "Size: $size[0], $size[1] and $size[2]";
?>
```

Output:

```
Size: Big, Medium and Short
```

File: array2.php

```php
<?php
$size[0]="Big";
$size[1]="Medium";
$size[2]="Short";
echo "Size: $size[0], $size[1] and $size[2]";
?>
```

Output:

```
Size: Big, Medium and Short
```

Traversing PHP Indexed Array

We can easily traverse array in PHP using foreach loop. Let's see a simple example to traverse all the elements of PHP array.

File: array3.php

```php
<?php
$size=array("Big","Medium","Short");
foreach( $size as $s )
{
  echo "Size is: $s<br />";
}
?>
```

Output:

```
Size is: Big
Size is: Medium
Size is: Short
```

Count Length of PHP Indexed Array

PHP provides count() function which returns length of an array.

```
<?php
$size=array("Big","Medium","Short");
echo count($size);
?>
```

Output:

```
3
```

PHP Associative Array

PHP allows you to associate name/label with each array elements in PHP using => symbol. Such way, you can easily remember the element because each element is represented by label than an incremented number.

Definition

There are two ways to define associative array:

1st way:

```
$salary=array("Sonoo"=>"550000","Vimal"=>"250000","Ratan"=>"200000");
```

2nd way:

```
$salary["Sonoo"]="550000";
$salary["Vimal"]="250000";
$salary["Ratan"]="200000";
```

Example

File: arrayassociative1.php

```
<?php
$salary=array("Sonoo"=>"550000","Vimal"=>"250000","Ratan"=>"200000");
echo "Sonoo salary: ".$salary["Sonoo"]."<br/>";
echo "Vimal salary: ".$salary["Vimal"]."<br/>";
echo "Ratan salary: ".$salary["Ratan"]."<br/>";
?>
```

Output:

```
Sonoo salary: 550000
Vimal salary: 250000
Ratan salary: 200000
```

File: arrayassociative2.php

```php
<?php
$salary["Sonoo"]="550000";
$salary["Vimal"]="250000";
$salary["Ratan"]="200000";
echo "Sonoo salary: ".$salary["Sonoo"]."<br/>";
echo "Vimal salary: ".$salary["Vimal"]."<br/>";
echo "Ratan salary: ".$salary["Ratan"]."<br/>";
?>
```

Output:

```
Sonoo salary: 550000
Vimal salary: 250000
Ratan salary: 200000
```

Traversing PHP Associative Array

By the help of PHP for each loop, we can easily traverse the elements of PHP associative array.

```php
<?php
$salary=array("Sonoo"=>"550000","Vimal"=>"250000","Ratan"=>"200000");
foreach($salary as $k => $v) {
echo "Key: ".$k." Value: ".$v."<br/>";
}
?>
```

Output:

```
Key: Sonoo Value: 550000
Key: Vimal Value: 250000
Key: Ratan Value: 200000
```

PHP Array Functions

PHP provides various array functions to access and manipulate the elements of array. The important PHP array functions are given below.

1) PHP array() function

PHP array() function creates and returns an array. It allows you to create indexed, associative and multidimensional arrays.

Syntax

```
array array ([ mixed $... ] )
```

Example

```
<?php
$season=array("summer","winter","spring","autumn");
echo "Season are: $season[0], $season[1], $season[2] and $season[3]";
?>
```

Output:

```
Season are: summer, winter, spring and autumn
```

2) PHP array_change_key_case() function

PHP array_change_key_case() function changes the case of all key of an array.

Note: It changes case of key only.

Syntax

```
array array_change_key_case ( array $array [, int $case = CASE_LOWER ] )
```

Example

```
<?php
$salary=array("Sonoo"=>"550000","Vimal"=>"250000","Ratan"=>"200000");
print_r(array_change_key_case($salary,CASE_UPPER));
?>
```

Output:

```
Array ( [SONOO] => 550000 [VIMAL] => 250000 [RATAN] => 200000 )
```

Example

```
<?php
$salary=array("Sonoo"=>"550000","Vimal"=>"250000","Ratan"=>"200000");
print_r(array_change_key_case($salary,CASE_LOWER));
?>
```

Output:

```
Array ( [sonoo] => 550000 [vimal] => 250000 [ratan] => 200000 )
```

3) PHP array_chunk() function

PHP array_chunk() function splits array into chunks. By using array_chunk() method, you can divide array into many parts.

Syntax

```
array array_chunk ( array $array , int $size [, bool $preserve_keys = false ] )
```

Example

```
<?php
$salary=array("Sonoo"=>"550000","Vimal"=>"250000","Ratan"=>"200000");
print_r(array_chunk($salary,2));
?>
```

Output:

```
Array (
[0] => Array ( [0] => 550000 [1] => 250000 )
[1] => Array ( [0] => 200000 )
)
```

4) PHP count() function

PHP count() function counts all elements in an array.

Syntax

```
int count ( mixed $array_or_countable [, int $mode = COUNT_NORMAL ] )
```

Example

```
<?php
$season=array("summer","winter","spring","autumn");
echo count($season);
?>
```

Output:

```
4
```

5) PHP sort() function

PHP sort() function sorts all the elements in an array.

Syntax

```
bool sort ( array &$array [, int $sort_flags = SORT_REGULAR ] )
```

Example

```
<?php
$season=array("summer","winter","spring","autumn");
sort($season);
foreach( $season as $s )
{
  echo "$s<br />";
}
?>
```

Output:

```
autumn
spring
summer
winter
```

6) PHP array_reverse() function

PHP array_reverse() function returns an array containing elements in reversed order.

Syntax

```
array array_reverse ( array $array [, bool $preserve_keys = false ] )
```

Example

```
<?php
$season=array("summer","winter","spring","autumn");
$reverseseason=array_reverse($season);
foreach( $reverseseason as $s )
{
  echo "$s<br />";
}
?>
```

Output:

```
autumn
spring
winter
summer
```

7) PHP array_search() function

PHP array_search() function searches the specified value in an array. It returns key if search is successful.

Syntax

```php
mixed array_search ( mixed $needle , array $haystack [, bool $strict = false ] )
```

Example

```php
<?php
$season=array("summer","winter","spring","autumn");
$key=array_search("spring",$season);
echo $key;
?>
```

Output:

```
2
```

8) PHP array_intersect() function

PHP array_intersect() function returns the intersection of two array. In other words, it returns the matching elements of two array.

Syntax

```php
array array_intersect ( array $array1 , array $array2 [, array $... ] )
```

Example

```php
<?php
$name1=array("sonoo","john","vivek","smith");
$name2=array("umesh","sonoo","kartik","smith");
$name3=array_intersect($name1,$name2);
foreach( $name3 as $n )
{
  echo "$n<br />";
}
?>
```

Output:

```
sonoo
smith
```

References:

Robin Nixon, “Learning PHP, MySQL, JavaScript, CSS & HTML5”, O’reilly, 2014.

https://www.tutorialspoint.com/php/php_arrays.htm

https://www.javatpoint.com/php-array

https://www.w3schools.com/PHP/php_arrays.asp