Read this first:

An array means an ordered list or arrangement. It stores the multiple values in single variable. Till now we have seen an array is capable to store multiple values of same data types but array in PHP is much powerful.

Array in PHP

Array in PHP is ordered Map. Map is a type that wills associates *values* to *keys*. Array of PHP can use for various purpose like;

- As an array
- As a list
- As a vector
- As a hash table
- Stack and queue

In PHP, we can store data having different data types in single array.

Creating an array in PHP

Array in PHP is created with *array()* function.

```
$cars = array("Volvo", "BMW", "Toyota", TRUE, 123.32, 32 );
```

In above example $cars is an array variable.

Types of array in PHP

PHP array can be divided in three categories.

- Indexed or Numeric Array
- Associative Arrays
- Multidimensional Array

- **Indexed or Numeric Array**
  An indexed or numeric array stores each array element with a numeric index.

```
<?php
$cars = array("Volvo", "BMW", "Toyota", TRUE, 123.32, 32 );
Var_dump($cars);
 ?>
```

In above example, all members of array is stored on numeric index.
$cars[0] = Volvo, $cars[1] = BMW,…….. $cars[5] = 32

We can also create an array by giving index manually. (without using array function)

```
<?php
$cars[0] = "Volvo";
$cars[1] = "BMW";
$cars[2] = "Toyota";
$cars[3] =  TRUE;
$cars[4] =  123.32;
$cars[5] = 32;
var_dump($cars);
 ?>
```

- **Associative Array**

  In associative array used can give their own key (as an index) and assigned values to those keys. User can also give string name as a key. The association between *keys* and *value* defined as below;

  keys=>values

```
<?php
$stu_info = array("Rohan"=>35,"John"=>43,"Hitesh"=>39,"Rahul"=>30,);
foreach($stu_info as $key=>$value) {
echo $key." is ".$value. "years old.";
}
?>
```

- **Multidimensional Array**

  A multidimensional array is an array containing one or more arrays. In simple language we can say an array within an array.

```
<?php
$std = array("Rohan"=>array("PHP"=>77,".Net"=>67,"Java"=>72),
             "Sweta"=>array("PHP"=>62,".Net"=>59,"Java"=>81),
             "Nishant"=>array("PHP"=>88,".Net"=>78,"Java"=>64),
             "Parinda"=>array("PHP"=>57,".Net"=>89,"Java"=>66)
            );
foreach($std as $name=>$arr) {
        echo $name;
                foreach($arr as $sub=>$marks) {
                        echo " got ".$marks."in ".$sub.", ";
                }
        echo "<br>";
}
echo "<br>"
?>
```

Array Navigation Functions

- **current()**
  Returns the current element in an array.

- **next()**
  Set pointer to the next element in an array.

- **prev()**
  Rewinds the internal array pointer.

- **end()**
  Set array pointer to last element of an array.

- **reset()**
  Set array pointer to first element of an array.

- **pos()**
  This function is alias of current(), it will return current element of an array .

```
<?php
$arr = array("Rohan","Kiran","Sweta","Ashish","Mahesh");


echo current($arr);  //RETURN Rohan
next($arr);         // set array pointer to next element
echo current($arr); //RETURN Kiran as now pointer is on second element
prev($arr);         // set pointer back to one element
echo current($arr); //RETURN Rohan
end($arr);          //set pointer to last element
echo current($arr); //RETURN Mahesh
reset($arr);        //set pointer to first element
echo current($arr); //RETURN Rohan
echo pos($arr);     //RETURN Rohan
?>
```

Array Sorting Functions

Array sorting functions are used to sort elements in an array.

- **sort()**
  This function will arrange elements of indexed array in ascending order.

- **rsort()**
  This function will arrange elements of indexed array in descending order.

- **ksort()**
  This function will arrange elements of associative array in ascending order according to key.

- **krsort()**
  This function will arrange elements of associative array in descending order according to key.

- **asort()**
  This function will arrange elements of associative array in ascending order according to value.

- **arsort**
  This function will arrange elements of associative array in descending order according to value.

Array Functions

- **count()**
  This function will count the number of array members.

- **array_flip()**
  This function will interchange the values of keys and values.

- **arrat y_keys()**
  This function will extract only the keys from an array and return an array contains the keys.

- **array_values()**
  This function will extract the only values from an array and return an array contains the values.

- **array_combine($keys,$values)**
  This function will take two indexed array as a parameter one for key and another for value then return a single associative array.

- **array_merge()**
  This function will merge two or more array in a single array.

- **array_column($arr,``key name``)**
  This function will return an array having the values of specified key.

- **In_array("value",$arr)**
  This function will return true when the specific value is in array.

Lab Assignment

Create a multi dimensional array that will store marks of three subject for various students and calculate and display total and percentage in tabular format on pressing submit button.