PHP VARIABLES, DATA TYPES AND CONSTANTS

PHP Variables

- Variables are used to store data, like string of text, numbers, etc. Variable values can change over the course of a script. Here're some important things to know about variables:

- In PHP variable can be declared as: $var_name = value;

Naming Conventions for PHP Variables

These are the following rules for naming a PHP variable:

- All variables in PHP start with a $ sign, followed by the name of the variable.
- A variable name must start with a letter or the underscore character _.
- A variable name cannot start with a number.
- A variable name in PHP can only contain alpha-numeric characters and underscores (A-z, 0-9, and _).
- A variable name cannot contain spaces.
- PHP variables are case-sensitive, so $name and $NAME both are treated as different variable.

Data Types in PHP

- PHP supports total eight primitive data types:

- Integer
- Float
- String
- Booleans
- Array
- Object
- Resource
- NULL

PHP Integers

- Integers are whole numbers, without a decimal point (..., -2, -1, 0, 1, 2, ...).

PHP Floating Point Numbers or Doubles

- Floating point numbers (also known as "floats", "doubles", or "real numbers") are decimal or fractional numbers

PHP Strings

- Strings are sequences of characters, where every character is the same as a byte.

- A string can hold letters, numbers, and special characters and it can be as large as up to 2GB.

- The simplest way to specify a string is to enclose it in single quotes (e.g. 'Hello world!'), however you can also use double quotes ("Hello world!").

PHP Booleans

- Booleans are like a switch it has only two possible values either 1 (true) or 0 (false).

PHP Arrays

- An array is a variable that can hold more than one value at a time.

- It is useful to aggregate a series of related items together, for example a set of country or city names.

- An array is formally defined as an indexed collection of data values.

- Each index (also known as the key) of an array is unique and references a corresponding value.

PHP Object

- An object is a data type that not only allows storing data but also information on, how to process that data.
- An object is a specific instance of a class which serve as templates for objects.
- Objects are created based on this template via the new keyword.
- Every object has properties and methods corresponding to those of its parent class.
- Every object instance is completely independent, with its own properties and methods, and can thus be manipulated independently of other objects of the same class.

PHP Null

- The special NULL value is used to represent empty variables in PHP.

- A variable of type NULL is a variable without any data. NULL is the only possible value of type null.

PHP Resources

- A resource is a special variable, holding a reference to an external resource.

- Resource variables typically hold special handlers to opened files and database connections.

Constants

- A constant is a name or an identifier for a fixed value.

- Constant are like variables, except that once they are defined, they cannot be undefined or changed.

- PHP constants can be defined by 2 ways:

- Using define() function
- Using const keyword

Constants(contd.)

- **PHP constant: define()** - Use the define() function to create a constant. It defines constant at run time.

define(name, value)

- name: It specifies the constant name.

- value: It specifies the constant value.

Constants(contd.)

```
<?php
// case-sensitive constant name
define("WISHES", "Good Evening");
echo WISHES;
?>
```

OUTPUT:

```
Good Evening
```

Constants(contd.)

- **PHP constant: const keyword** - PHP introduced a keyword const to create a constant. The const keyword defines constants at compile time. It is a language construct, not a function. The constant defined using const keyword are case-sensitive.

```
<?php
const WISHES="Good day";
echo WISHES;
?>
```

OUTPUT:

```
Good day
```

Constants(contd.)

- **Constant() function** - There is another way to print the value of constants using constant() function.

- The syntax for the following constant function:

constant (name)

Constants(contd.)

```
<?php
    define("WISHES", "Good Evening");
    echo WISHES. "<br>";
    echo constant("WISHES");
    //both are similar
?>
```

OUTPUT:

```
Good Evening
Good Evening
```

Constants(contd.)

- **PHP Constant Arrays** - In PHP, you can create an Array constant using the define() function.

```
<?php
define("courses", [
  "PHP",
  "HTML",
  "CSS"
]);
echo courses[0];
?>
```

OUTPUT:

```
PHP
```

Constants(contd.)

- **PHP Constant Arrays** - In PHP, you can also create an Array constant using const keyword.

```
<?php
const WISHES=array("PHP",
"HTML",
"CSS");
echo WISHES[0];
?>
```

OUTPUT:

```
PHP
```

Constants(contd.)

- **Constants are Global** - Constants are automatically global and can be used across the entire script.

```php
<?php
define("WISHES", "Good Evening");

function test() {
  echo WISHES;
}
test();
?>
```

OUTPUT:

```
Good Evening
```