

Pemrograman Web

2 SKS | Semester 5 | UNIKOM

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Lesson 2

PHP : Variable, Constant, Data Type, Operator





PHP Variables

A variable can have a short name (like `x` and `y`) or a more descriptive name (`age`, `carname`, `total_volume`).

Rules for PHP variables:

- A variable starts with the \$ 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 can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)
- Variable names are case-sensitive (`$age` and `$AGE` are two different variables)





Creating (Declaring) PHP Variables

```
<?php  
$merk = "Adidas Superstar";  
$price = 800000;  
?>
```



Output Variables

```
<?php
$merk = "Adidas Superstar";
$price = 800000;

echo "Nama Produk = $merk";
echo <br>;
echo "Harga Produk = Rp. ". number_format($price, 0 , ' ' , ',' );
?>
```



PHP Constants

- Constants are like variables except that once they are defined they cannot be changed.
- A valid constant name starts with a letter or underscore (no \$ sign before the constant name).





Syntax Constants

```
define(name, value, case-insensitive)
```

Parameters:

- **name**: Specifies the name of the constant
- **value**: Specifies the value of the constant
- **case-insensitive**: Specifies whether the constant name should be case-insensitive. Default is false





Creating (Declaring) PHP Constants

```
<?php  
define ("PI", 3.14);  
echo PI;  
?>
```





Creating (Declaring) PHP Constants

```
<?php  
define ("PI", 3.14, true);  
echo pi;  
?>
```


PHP Data Types

Variables can store data of different types, and different data types can do different things.

PHP supports the following data types:

- String
- Integer
- Float (floating point numbers - also called double)
- Boolean
- Array
- Object
- NULL
- Resource

The PHP ***var_dump()*** function returns the data type and value





PHP Operators

Operators are used to perform operations on variables and values.

PHP divides the operators in the following groups:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators
- String operators
- Array operators

Learn more: https://www.w3schools.com/php/php_operators.asp





PHP Arithmetic Operators

The PHP arithmetic operators are used with numeric values to perform common arithmetical operations, such as addition, subtraction, multiplication etc.

Operator	Name	Example	Result
+	Addition	$\$x + \y	Sum of $\$x$ and $\$y$
-	Subtraction	$\$x - \y	Difference of $\$x$ and $\$y$
*	Multiplication	$\$x * \y	Product of $\$x$ and $\$y$
/	Division	$\$x / \y	Quotient of $\$x$ and $\$y$
%	Modulus	$\$x \% \y	Remainder of $\$x$ divided by $\$y$



Syntax Arithmetic Operators

```
<?php
```

```
$harga_satuan      = 15000;
```

```
$jumlah_barang    = 2;
```

```
$harga_bayar      = $harga_satuan * $jumlah_barang;
```

```
echo "Harga Bayar : ". $harga_bayar;
```

```
?>
```



PHP Assignment Operators

The PHP assignment operators are used with numeric values to write a value to a variable. The basic assignment operator in PHP is "=". It means that the left operand gets set to the value of the assignment expression on the right.

Assignment	Same as...	Description
$x = y$	$x = y$	The left operand gets set to the value of the expression on the right
$x += y$	$x = x + y$	Addition
$x -= y$	$x = x - y$	Subtraction
$x *= y$	$x = x * y$	Multiplication
$x /= y$	$x = x / y$	Division
$x \% = y$	$x = x \% y$	Modulus



Syntax Assignment Operators

```
<?php  
$stock = 20;  
$stock += 100;  
  
echo $stock;  
?>
```





PHP Comparison Operators

The PHP comparison operators are used to compare two values (number or string).

Operator	Name	Example	Result
==	Equal	<code>\$x == \$y</code>	Returns true if \$x is equal to \$y
===	Identical	<code>\$x === \$y</code>	Returns true if \$x is equal to \$y, and they are of the same type
!=	Not equal	<code>\$x != \$y</code>	Returns true if \$x is not equal to \$y
<>	Not equal	<code>\$x <> \$y</code>	Returns true if \$x is not equal to \$y
!==	Not identical	<code>\$x !== \$y</code>	Returns true if \$x is not equal to \$y, or they are not of the same type
>	Greater than	<code>\$x > \$y</code>	Returns true if \$x is greater than \$y
<	Less than	<code>\$x < \$y</code>	Returns true if \$x is less than \$y
>=	Greater than or equal to	<code>\$x >= \$y</code>	Returns true if \$x is greater than or equal to \$y
<=	Less than or equal to	<code>\$x <= \$y</code>	Returns true if \$x is less than or equal to \$y



Syntax Comparison Operators

```
<?php  
$username1 = "admin";  
$username2 = "admin";  
  
var_dump($username1 == $username2); // returns true because values are equal  
?>
```





PHP Increment / Decrement Operators

The PHP increment operators are used to increment a variable's value.
The PHP decrement operators are used to decrement a variable's value.

Operator	Name	Description
<code>++\$x</code>	Pre-increment	Increments <code>\$x</code> by one, then returns <code>\$x</code>
<code>\$x++</code>	Post-increment	Returns <code>\$x</code> , then increments <code>\$x</code> by one
<code>--\$x</code>	Pre-decrement	Decrements <code>\$x</code> by one, then returns <code>\$x</code>
<code>\$x--</code>	Post-decrement	Returns <code>\$x</code> , then decrements <code>\$x</code> by one





Syntax Increment / Decrement Operators

```
<?php  
$x = 10;  
echo ++$x; //result 11  
echo "<br/>";  
$x = 10;  
echo $x++; //result 10  
?>
```





PHP Logical Operators

The PHP logical operators are used to combine conditional statements.

Operator	Name	Example	Result
and	And	<code>\$x and \$y</code>	True if both <code>\$x</code> and <code>\$y</code> are true
or	Or	<code>\$x or \$y</code>	True if either <code>\$x</code> or <code>\$y</code> is true
xor	Xor	<code>\$x xor \$y</code>	True if either <code>\$x</code> or <code>\$y</code> is true, but not both
&&	And	<code>\$x && \$y</code>	True if both <code>\$x</code> and <code>\$y</code> are true
	Or	<code>\$x \$y</code>	True if either <code>\$x</code> or <code>\$y</code> is true
!	Not	<code>!\$x</code>	True if <code>\$x</code> is not true



Syntax Logical Operators

```
<?php
$type = "member";
$poin = 100;

if ($type == "member" and $poin == 100) {
    echo "Selamat Anda Mendapatkan Potongan Harga.";
}
?>
```



PHP String Operators

PHP has two operators that are specially designed for strings.

Operator	Name	Example	Result
.	Concatenation	<code>\$txt1 . \$txt2</code>	Concatenation of <code>\$txt1</code> and <code>\$txt2</code>
<code>.=</code>	Concatenation assignment	<code>\$txt1 .= \$txt2</code>	Appends <code>\$txt2</code> to <code>\$txt1</code>



Syntax String Operators

```
<?php  
$first_name = "Budi";  
$last_name  = "Raharjo";  
$first_name .= $last_name;  
echo $first_name; // result Budi Raharjo  
?>
```





PHP Array Operators

The PHP array operators are used to compare arrays.

Operator	Name	Example	Result
+	Union	<code>\$x + \$y</code>	Union of <code>\$x</code> and <code>\$y</code>
==	Equality	<code>\$x == \$y</code>	Returns true if <code>\$x</code> and <code>\$y</code> have the same key/value pairs
===	Identity	<code>\$x === \$y</code>	Returns true if <code>\$x</code> and <code>\$y</code> have the same key/value pairs in the same order and of the same types
!=	Inequality	<code>\$x != \$y</code>	Returns true if <code>\$x</code> is not equal to <code>\$y</code>
<>	Inequality	<code>\$x <> \$y</code>	Returns true if <code>\$x</code> is not equal to <code>\$y</code>
!==	Non-identity	<code>\$x !== \$y</code>	Returns true if <code>\$x</code> is not identical to <code>\$y</code>



Syntax Array Operators

```
<?php
```

```
$x = array("a" => "red", "b" => "green");  
$y = array("c" => "blue", "d" => "yellow");
```

```
print_r($x + $y); // union of $x and $y
```

```
?>
```





Case 1: IS-1

Buatlah program php yang didalamnya terdapat beberapa variable untuk menyimpan data konsumen, sebagai berikut:

Nomor Konsumen	= 101
Nama Konsumen	= Rudi Saputra
Nomor HP	= 082190807066
Email	= rudis@email.com
Saldo	= Rp. 350.000

Semua variable harus ditampilkan pada browser.





Case 2: IS-1

Buatlah program php untuk menghitung biaya transaksi sebagai berikut;

Daftar barang yang dibeli:

2 buku Pemrograman Web dengan harga 50.000/buku

3 buku Akuntansi dengan harga 70.000/buku

Keterangan: terdapat potongan harga 10% (nilai potongan tidak akan berubah) dari total harga bayar.





Case 1: IS-2

Buatlah program php yang didalamnya terdapat beberapa variable untuk menyimpan data pengiriman, sebagai berikut:

Nomor Pengiriman	= 312
Jasa Pengiriman	= JNE
Tujuan	= Cimahi
Kode Pos	= 40534
Biaya	= Rp. 7.000

Semua variable harus ditampilkan pada browser.





Case 2: IS-2

Buatlah program php untuk menghitung biaya pengiriman sebagai berikut;

Daftar pengiriman:

1 unit Laptop Asus (4kg/unit)

2 unit Printer (1kg/unit)

dari Bandung ke Tasikmalaya, ongkos kirim 9.000/kg

Keterangan: terdapat potongan ongkos 10% (nilai potongan tidak akan berubah) dari total ongkos kirim.





Buatlah program php yang didalamnya terdapat beberapa variable untuk menyimpan data pesanan, sebagai berikut:

Kode Pesanan	= P0918001
Waktu Pesanan	= 28/09/2018 13:00:00
Metode Pembayaran	= Transfer BCA
Pengiriman	= J&T Reguler
Total Bayar	= Rp. 150.000

Semua variable harus ditampilkan pada browser.





Buatlah program php untuk menghitung biaya transaksi sebagai berikut;

Daftar barang yang dibeli:

3 flash disk dengan harga 60.000/unit

4 mouse pad dengan harga 15.000/unit

Keterangan: terdapat potongan harga 15% (nilai potongan tidak akan berubah) dari total harga bayar.





Buatlah program php yang didalamnya terdapat beberapa variable untuk menyimpan data promosi, sebagai berikut:

ID Promosi	= P18012
Nama Promosi	= Kemerdekaan
Periode Promosi	= Agustus
Kode Promosi	= merdeka64
Total Potongan	= Rp. 64.000

Semua variable harus ditampilkan pada browser.





Buatlah program php untuk menghitung biaya pengiriman sebagai berikut;

Daftar pengiriman:

4 unit Smartphone (500gr/unit)

2 unit Power Bank (1kg/unit)

dari Bandung ke Cimahi, ongkos kirim 7.000/kg

Keterangan: terdapat potongan ongkos 15% (nilai potongan tidak akan berubah) dari total ongkos kirim.



NEXT:

PHP Conditional

