week 2
lab 1
web programming 2

Dr : Rasha
Eng : Gehad Mustafa

Contents

➢ Arithmetic Operators

➢ Assignment Operators

➢ Comparison Operators

➢ Increment / Decrement Operators

➢ Logical Operators

➢ String Operators

➢ Array Operators

Arithmetic Operators

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
**	Exponentiation	$x ** $y	Result of raising $x to the $y'th power

```php
<?php
    $x = "5";
    $y = "-10";
    echo ($x);
    echo "<br>";
    echo gettype($x);
    echo "<br>";
    echo (+"$x");
    echo "<br>";
    echo gettype(+"$x");
    echo "<br>";
    echo (-"$x");
    echo "<br>";
    echo gettype(-"$x");
    echo "<br>";
    echo (-"$y");
    echo "<br>";
    echo gettype(-"$y");
?>
```

5
string
5
integer
-5
integer
10
integer

Assignment Operators

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

Comparison Operators

Operator	Name	Example	Result
==	Equal	$x == $y	Returns true if $x is equal to $y
===	Identical	$x === $y	Returns true if $x is equal to $y, and they are of the same type
!=	Not equal	$x != $y	Returns true if $x is not equal to $y
<>	Not equal	$x <> $y	Returns true if $x is not equal to $y
!==	Not identical	$x !== $y	Returns true if $x is not equal to $y, or they are not of the same type
>	Greater than	$x > $y	Returns true if $x is greater than $y
<	Less than	$x < $y	Returns true if $x is less than $y
>=	Greater than or equal to	$x >= $y	Returns true if $x is greater than or equal to $y
<=	Less than or equal to	$x <= $y	Returns true if $x is less than or equal to $y
<=>	Spaceship	$x <=> $y	Returns an integer less than, equal to, or greater than zero, depending on if $x is less than, equal to, or greater than $y. Introduced in PHP 7.

Test Equal

The var_dump() function dumps information about one or more variables. The information holds type and value of the variable(s).


```php
<?php

    echo var_dump(10==10);
    echo "<br>";
    echo var_dump(10=="10");
    echo "<br>";
    echo var_dump(10==10.0);
    echo "<br>";
    echo var_dump(10!=10);
    echo "<br>";
    echo var_dump(100<>100);
    echo "<br>";
```

bool(true)
bool(true)
bool(true)
bool(false)
bool(false)

Test Identical

```
16    echo var_dump(100===100);
17    echo "<br>";
18    echo var_dump(10.0===10);
19    echo "<br>";
20    echo var_dump("100"===100);
21    echo "<br>";
22    echo var_dump(100!==100);
23  ?>
```

bool(true)
bool(false)
bool(false)
bool(false)

Spaceship

```php
echo var_dump(100<=>10);
echo "<br>";
echo var_dump(100<=>100);
echo "<br>";
echo var_dump(10<=>100);
?>
```

```
int(1)
int(0)
int(-1)
```

Increment / Decrement Operators

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

Increment / Decrement Operators

```php
<?php
    $x=2;

    echo $x++;
    echo "<br>";
    echo $x;
    echo "<br>";
    echo ++$x;
    echo "<br>";
    echo $x;
    echo "<br>";

?>
```

```
2
3
4
4
```

Try This

```php
gehad.php > ...
1    <?php
2    $x=6;
3    $x++;
4    --$x;
5    $x+=2;
6    echo $x++;
7    echo "<br>";
8    echo --$x;
9    ?>
```

Logical Operators

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

Logical Operators

```php
gehad.php > …
1
2      <?php
3
4          $a="Ahmed";
5          $aa=$a || False;
6
7          echo var_dump($aa);
8
9          echo"<br>";
10
11         $b=$a or False;
12         echo var_dump($b);
13
14
```

Chat, Meeting…
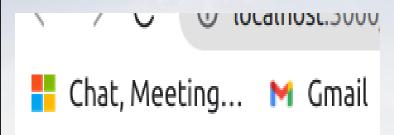
bool(true)
string(5) "Ahmed"

String Operators

Operator	Name	Example	Result
.	Concatenation	$txt1 . $txt2	Concatenation of $txt1 and $txt2
.=	Concatenation assignment	$txt1 .= $txt2	Appends $txt2 to $txt1

String Operators
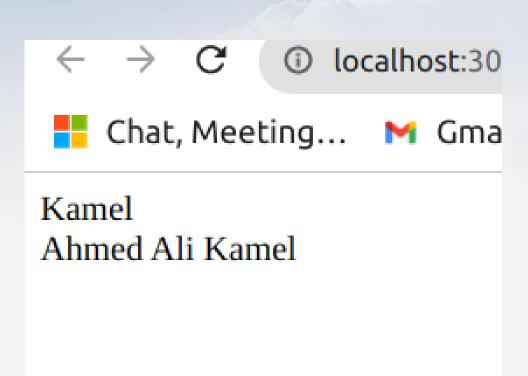
```php
<?php
  define("Name","Mustafa");
  $x="Ahmed";
  $y="Ali";
  $z="Kamel";

  echo "$x $y $z Name";
  echo "<br>";
  echo "{$x} {$y} {$z} {Name}";
  echo "<br>";
  echo "$x"." ". "$y"." "."$z"." ".Name;

?>
```


Ahmed Ali Kamel Name
Ahmed Ali Kamel {Name}
Ahmed Ali Kamel Mustafa

String Operators

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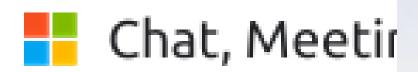
Operator	Name	Example	Result
+	Union	$x + $y	Union of $x and $y
==	Equality	$x == $y	Returns true if $x and $y have the same key/value pairs
===	Identity	$x === $y	Returns true if $x and $y have the same key/value pairs in the same order and of the same types
!=	Inequality	$x != $y	Returns true if $x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

Union

```php
<?php

    $arr1=[1=>"A",2=>"B",3=>"C"];
    $arr2=[4=>"E",5=>"F",6=>"G"];
    $Arr3=$arr1+$arr2;

    Echo '<pre>';
    Print_r ($Arr3);
    echo "<br>";
```

```
Chat, Meeting...

Array
(
    [1] => A
    [2] => B
    [3] => C
    [4] => E
    [5] => F
    [6] => G
)
```

Array Operators

```php
<?php

    $arr1=[1=>"A",2=>"B"];
    $arr2=[2=>"B",1=>"A"];
    $Arr3=$arr1+$arr2;


    echo var_dump($arr1==$arr2);
    echo "<br>";
    echo var_dump($arr1===$arr2);



?>
```

bool(true)
bool(false)

Conditional Statements

➤ if statement - executes some code if one condition is true

➤ if...else statement - executes some code if a condition is true and another code if that condition is false

➤ if...elseif...else statement - executes different codes for more than two conditions

➤ switch statement - selects one of many blocks of code to be executed

The if Statement

- if (condition) { code to be executed if condition is true; }

else if

If


```php
gehad.php > ...
 1
 2  <?php
 3   if(10>9){
 4  ?>
 5  <!DOCTYPE html>
 6  <html lang="en">
 7  <head>
 8      <meta charset="UTF-8">
 9      <meta http-equiv="X-UA-Compatible" content="IE=edge">
10      <meta name="viewport" content="width=device-width, initial-scale=1.0">
11      <title>Document</title>
12  </head>
13  <body>
14      <h1>Hello</h1>
15  </body>
16  </html>
17  <?php }
18  else
19  {
20      echo "no";
21  }
22  ?>
```

Chat, Meeting.

Hello

If

```php
gehad.php > ...
 1
 2  <?php
 3   if(10<9){
 4  ?>
 5  <!DOCTYPE html>
 6  <html lang="en">
 7  <head>
 8    <meta charset="UTF-8">
 9    <meta http-equiv="X-UA-Compatible" content="IE=edge">
10    <meta name="viewport" content="width=device-width, initial-scale=1.0">
11    <title>Document</title>
12  </head>
13  <body>
14    <h1>Hello</h1>
15  </body>
16  </html>
17  <?php }
18  else
19  {
20    echo "no";
21  }
22  ?>
```

← →

Chat,

no

Try This

- write php code to print the max of three numbers.
- write a php code to calculate the grades of a student if :

  mark>= 90 → print "A"

  mark >= 70 → print "B"

  mark >= 50 → print "C"

  mark < 50 → print "F"

ternary Operators

Switch

```
switch (n) {
  case label1:
    code to be executed if n=label1;
    break;
  case label2:
    code to be executed if n=label2;
    break;
  case label3:
    code to be executed if n=label3;
    break;

    ...
  default:
    code to be executed if n is different from all labels;
}
```

Switch

```php
<?php
$favcolor = "blue";

switch ($favcolor) {
  case "red":
    echo "Your favorite color is $favcolor!";
    break;
  case "blue":
    echo "Your favorite color is $favcolor!";
    break;
  case "green":
    echo "Your favorite color is $favcolor!";
    break;
  default:
    echo "Your favorite color is neither red, blue, nor green!";
}
?>
```

Chat, Meeting... M

Your favorite color is blue!

Try This

- write PHP code to simulate a calculator by using Switch.
- inputs 4(+ or - or * or /)1.
- output 5 or 3 or 4 or 4.

While

- while (condition is true) { code to be executed}

```php
gehad.php > ...
1    <?php
2    $x = 1;
3
4    while($x <= 5) {
5        echo "The number is: $x <br>";
6        $x++;
7    }
8    ?>
```

The number is: 1
The number is: 2
The number is: 3
The number is: 4
The number is: 5

Do While

do {
code to be executed;
} while (condition is true);

```php
gehad.php > ...
1   <?php
2   $x = 3;
3   do {
4       echo "The number is: $x <br>";
5       $x++;
6   } while ($x <= 5);
7   ?>
```

The number is: 3
The number is: 4
The number is: 5

For

for (init counter; test counter; increment counter) {
code to be executed for each iteration; }

```php
gehad.php > ...
1   <?php
2   for ($x = 0; $x <= 10; $x++) {
3       echo "The number is: $x <br>";
4   }
5   ?>
```

The number is: 0
The number is: 1
The number is: 2
The number is: 3
The number is: 4
The number is: 5
The number is: 6
The number is: 7
The number is: 8
The number is: 9
The number is: 10

foreach

foreach ($array as $value) {
 code to be executed;
}

```php
gehad.php > …
1    <?php
2    $colors = array("red", "green", "blue", "yellow");
3
4    foreach ($colors as $value) {
5        echo "$value <br>";
6    }
7    ?>
```

red
green
blue
yellow

foreach

foreach($Array as $Key => $Value) {
 code to be executed;}

```php
gehad.php > ...
1   <?php
2   $age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");
3
4   foreach($age as $x => $val) {
5     echo "$x = $val<br>";
6   }
7   ?>
```

Chat, Meet

Peter = 35

Ben = 37

Joe = 43

PHP Break

```php
<?php
for ($x = 0; $x < 10; $x++) {
  if ($x == 4) {
    break;
  }
  echo "The number is: $x <br>";
}
?>
```

The number is: 0
The number is: 1
The number is: 2
The number is: 3

PHP Continue

```php
<?php
for ($x = 0; $x < 10; $x++) {
  if ($x == 4) {
    continue;
  }
  echo "The number is: $x <br>";
}
?>
```

The number is: 0
The number is: 1
The number is: 2
The number is: 3
The number is: 5
The number is: 6
The number is: 7
The number is: 8
The number is: 9

Try

- write php code to print this output

```
0
11
222
3333
44444
555555
6666666
77777777
888888888
9999999999
```

Answer

```php
<?php
for ($x=0 ; $x<10; $x++)
{
    for ($j=0 ; $j<=$x ; $j++)
    {
        echo "$x";
    }
    echo "<br>";
}
?>
```

```
0
11
222
3333
44444
555555
6666666
77777777
888888888
9999999999
```