PROGRAM STUDI
TEKNIK INFORMATIKA
FAKULTAS ILMU KOMPUTER
UNIVERSITAS DIAN NUSWANTORO

MATA KULIAH
KECERDASAN BUATAN

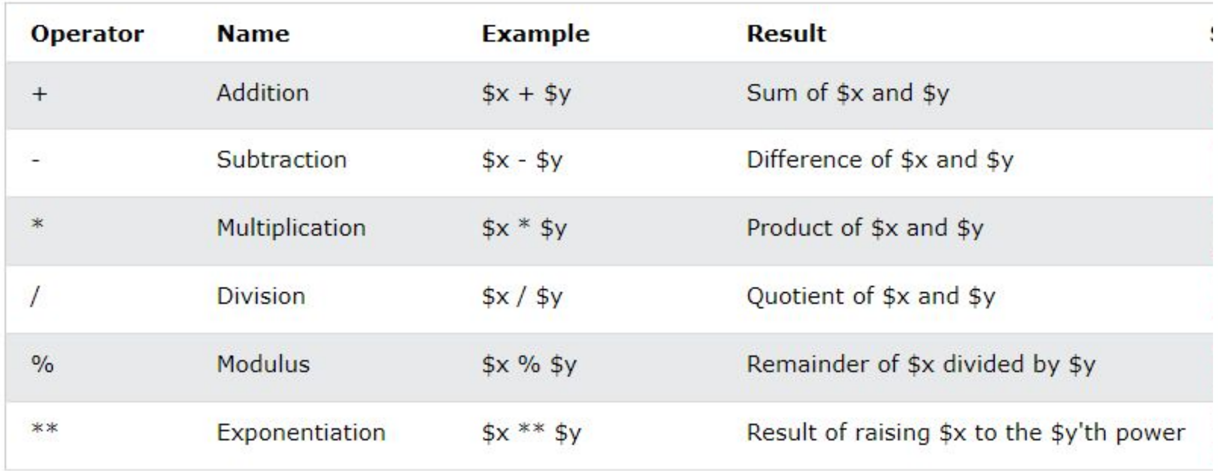
Operator dan Struktur Kontrol pada PHP

Operator

Digunakan untuk melakukan operasi pada variabel dan nilai:

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

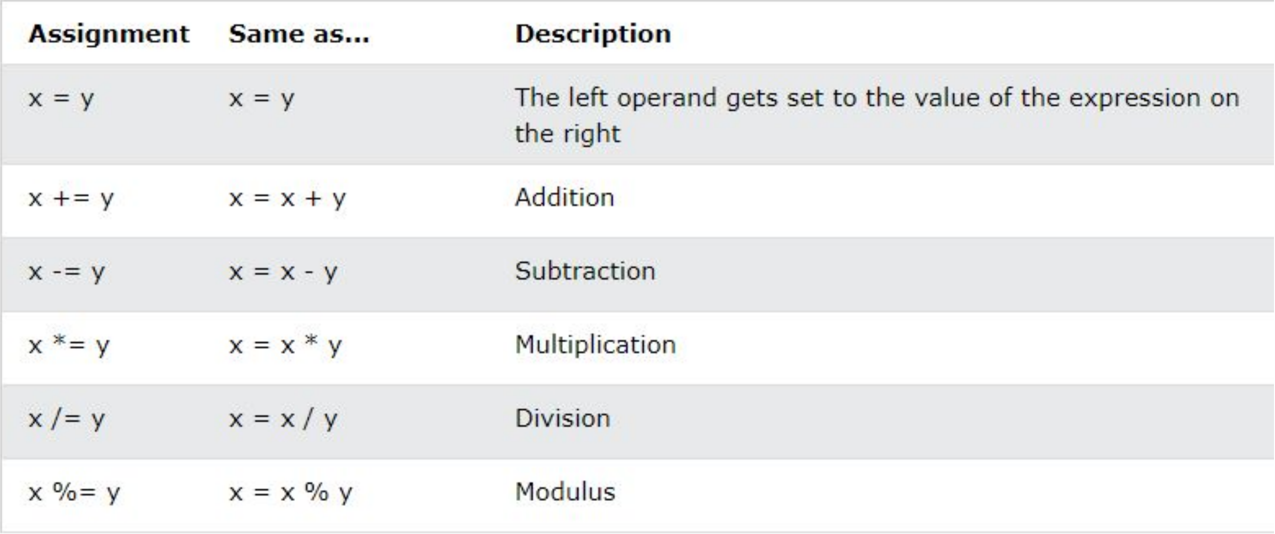
Operator Aritmatika



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

```
<!DOCTYPE html>
<html>
<body>

<?php
$x = 10;
$y = 6;

echo $x * $y;
?>

</body>
</html>
```

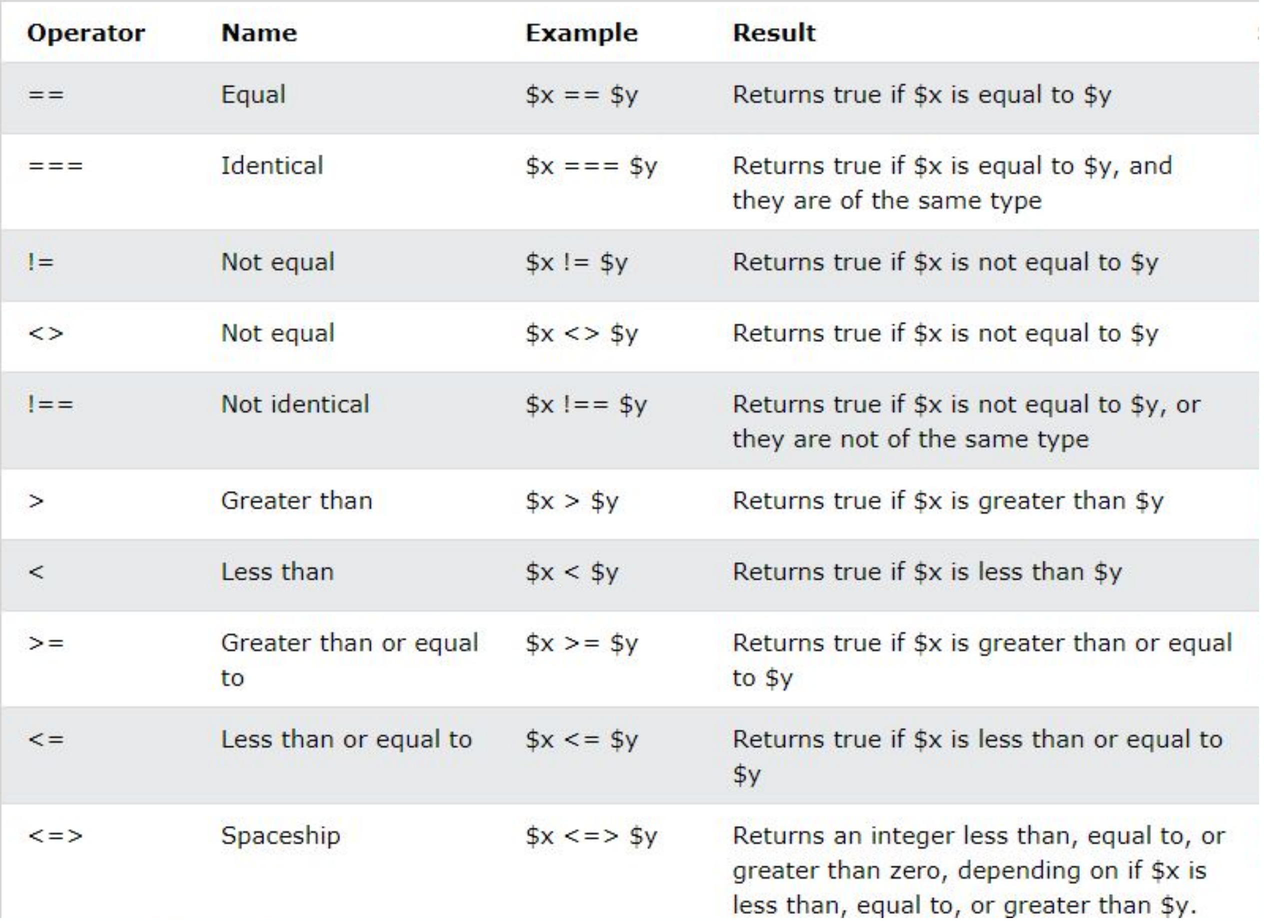
Operator Assignment



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

```
<!DOCTYPE html>
<html>
<body>
<?php
$x = 20;
$x + = 100;  //$x=$x+ 100;
echo $x;
?>
</body>
</html>
```

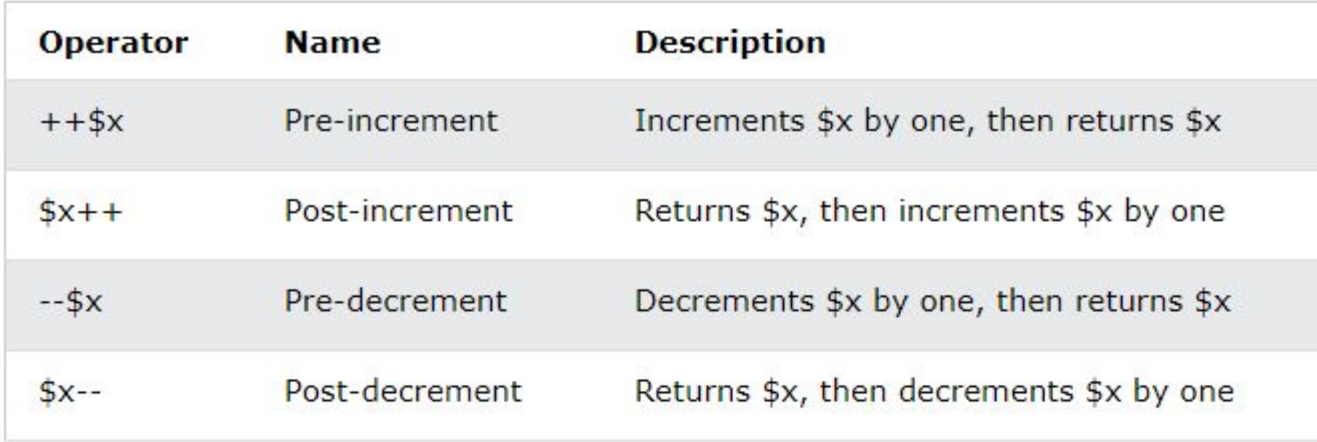
Operator Komparasi



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.

```
<!DOCTYPE html>
<html>
<body>

<?php
$x = 100;
$y = "100";

var_dump($x == $y); // returns true because values are equal
?>

</body>
</html>
```

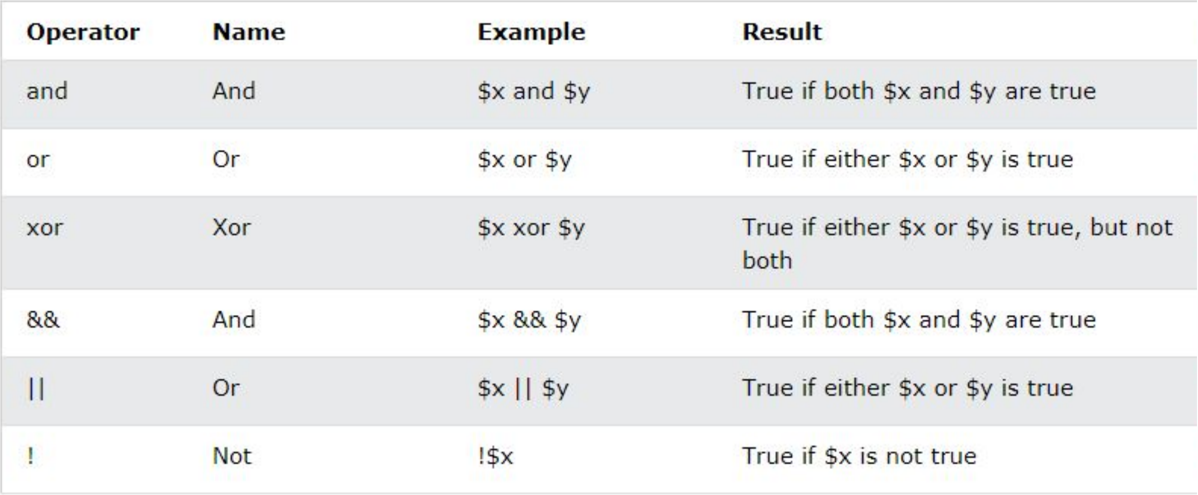
Operator Increment / Decrement



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

```
<!DOCTYPE html>
<html>
<body>

<?php
$x = 10;
echo ++$x;
?>

</body>
</html>
```

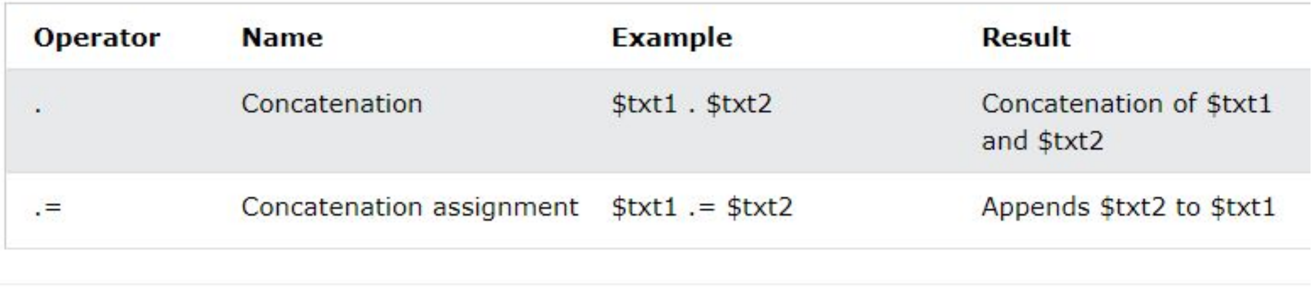
Operator Logical



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

```
<!DOCTYPE html>
<html>
<body>

<?php
$x = 100;
$y = 50;

if ($x == 100 and $y == 50) {
    echo "Hello world!";
}
?>

</body>
</html>
```

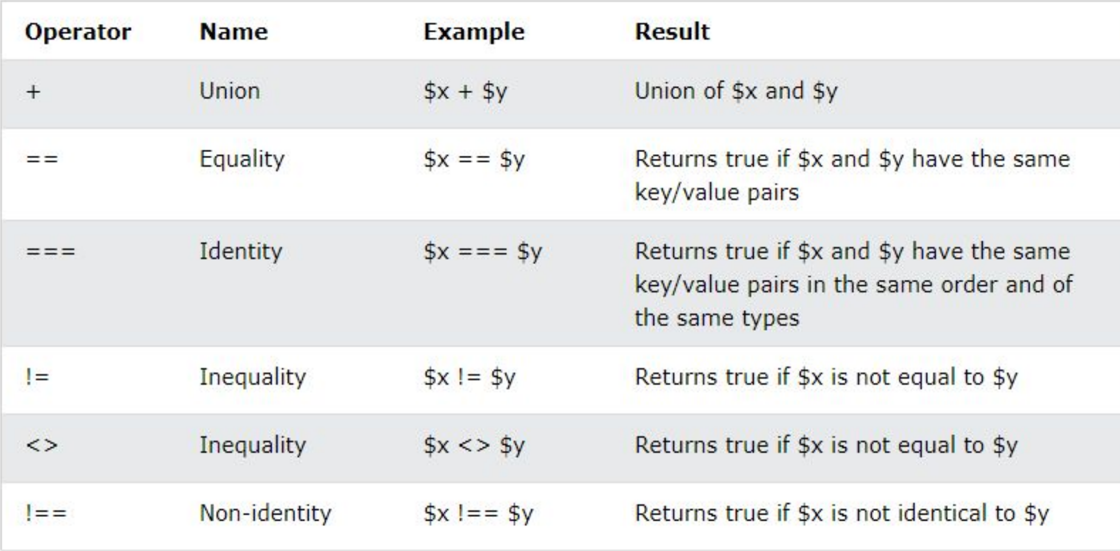
Operator String



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

```
<!DOCTYPE html>
<html>
<body>

<?php
$txt1 = "Hello";
$txt2 = " world!";
$txt1 .= $txt2;  // $txt1=$txt1.$txt2
echo $txt1;
?>

</body>
</html>
```

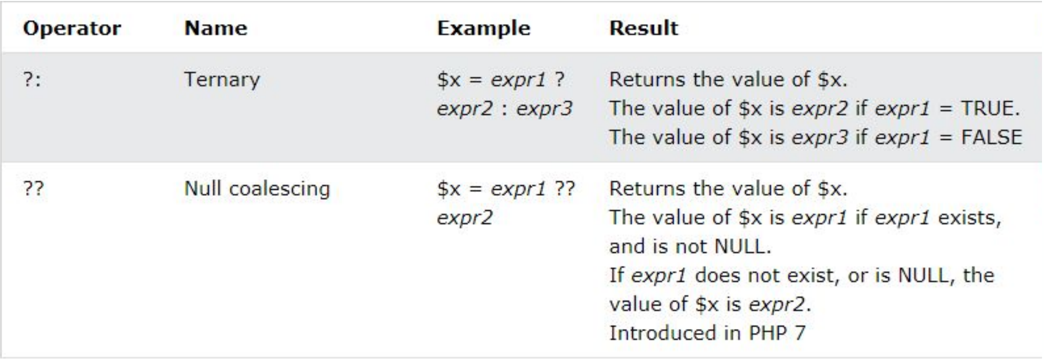
Operator pd Array



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

```
<!DOCTYPE html>
<html>
<body>

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

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

</body>
</html>
```

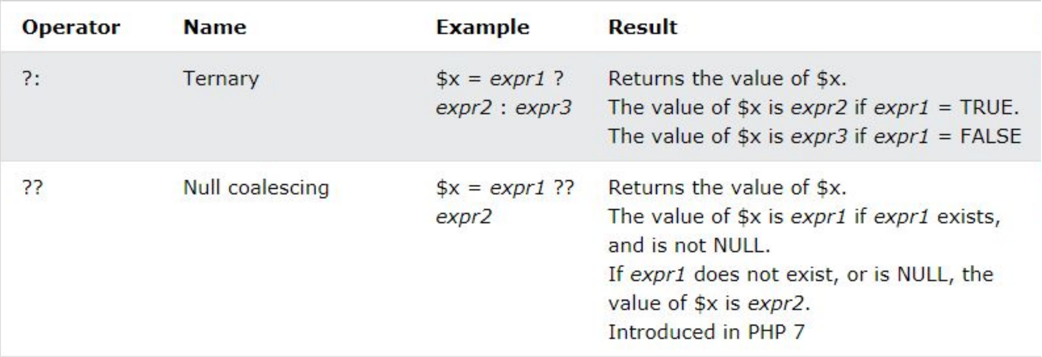
Operator Assignment Kondisional



Operator	Name	Example	Result
?:	Ternary	$x = *expr1* ? *expr2* : *expr3*	Returns the value of $x. The value of $x is *expr2* if *expr1* = TRUE. The value of $x is *expr3* if *expr1* = FALSE
??	Null coalescing	$x = *expr1* ?? *expr2*	Returns the value of $x. The value of $x is *expr1* if *expr1* exists, and is not NULL. If *expr1* does not exist, or is NULL, the value of $x is *expr2*. Introduced in PHP 7

```
<!DOCTYPE html>
<html>
<body>

<?php
  // if empty($user) = TRUE, set $status = "anonymous"
  echo $status = (empty($user)) ? "anonymous" : "logged in";
  echo("<br>");

  $user = "John Doe";
  // if empty($user) = FALSE, set $status = "logged in"
  echo $status = (empty($user)) ? "anonymous" : "logged in";

  echo $user = $_GET["user"] ?? "anonymous";
  echo("<br>");

?>

</body>
</html>
```

Operator Assignment Kondisional



Operator	Name	Example	Result
?:	Ternary	$x = *expr1* ? *expr2* : *expr3*	Returns the value of $x. The value of $x is *expr2* if *expr1* = TRUE. The value of $x is *expr3* if *expr1* = FALSE
??	Null coalescing	$x = *expr1* ?? *expr2*	Returns the value of $x. The value of $x is *expr1* if *expr1* exists, and is not NULL. If *expr1* does not exist, or is NULL, the value of $x is *expr2*. Introduced in PHP 7

```
<!DOCTYPE html>
<html>
<body>

<?php
  // if empty($user) = TRUE, set $status = "anonymous"
  echo $status = (empty($user)) ? "anonymous" : "logged in";
  echo("<br>");

  $user = "John Doe";
  // if empty($user) = FALSE, set $status = "logged in"
  echo $status = (empty($user)) ? "anonymous" : "logged in";

  echo $user = $_GET["user"] ?? "anonymous";
  echo("<br>");

?>

</body>
</html>
```

Struktur Kontrol

- Kondisional (IF, Swirch)
- Loop

Kondisional [If ; If Else ; If elseif else;]

```
<?php
$t = date("H");

if ($t < "20") {
  echo "Have a good day!";
}
?>
```

```
<?php
$t = date("H");

if ($t < "20") {
  echo "Have a good day!";
} else {
  echo "Have a good night!";
}
?>
```

```
<!DOCTYPE html>
<html>
<body>

<?php
$t = date("H");
echo "<p>The hour (of the server) is " . $t;
echo ", and will give the following message:</p>";

if ($t < "10") {
  echo "Have a good morning!";
} elseif ($t < "20") {
  echo "Have a good day!";
} else {
  echo "Have a good night!";
}
?>

</body>
</html>
```

Kondisional - Switch

```
<!DOCTYPE html>
<html>
<body>

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

Loop

- While
- do while
- For
- Foreach
- Break
- Continue

While

```
<!DOCTYPE html>
<html>
<body>

<?php
$x = 1;

while($x <= 5) {
  echo "The number is: $x <br>";
  $x++;
}
?>

</body>
</html>
```

do while

```
<?php
$x = 1;

do {
   echo "The number is: $x <br>";
  $x++;
} while ($x <= 5);
?>
```

For

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

For each

```
<!DOCTYPE html>
<html>
<body>

<?php
$colors = array("red", "green", "blue", "yellow");

foreach ($colors as $value) {
  echo "$value <br>";
}

$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");

foreach($age as $x => $val) {
   echo "$x = $val<br>";
}

?>

</body>
</html>
```

Break,Continue

```
<!DOCTYPE html>
<html>
<body>

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

</body>
</html>
```

```
<!DOCTYPE html>
<html>
<body>

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

</body>
</html>
```