Comparison Operators

This lesson covers the comparison operators and how you can use them in PHP. It also covers a special comparison operator, i.e., the spaceship operator.

We'll cover the following

- Basic operators
- Spaceship Operator
- Quick Quiz on Comparison Operators

Basic operators

Comparison operators, as the name suggests, allow you to compare two values. The following table illustrates the different comparison operators in PHP:

Operator	Name	Example
==	Equal	`a==b`
===	Identical	`a===b`
!=	Not Equal	`a!=b`
!==	Not Identical	`a!==b`
<	Less than	`a<b`
>	Greater than	`a>b`
<=	Less than equal to	`a<=b`
>=	Greater than equal to	`a>=b`

> **Note:** For basic equality testing, the equal operator `==` is used. For more comprehensive checks, use the identical operator `===` .

For instance, the `==` operator will return true when an integer `4` is compared with a character `'4'` but the `===` will return false. Run the code snippet below to see how this works:

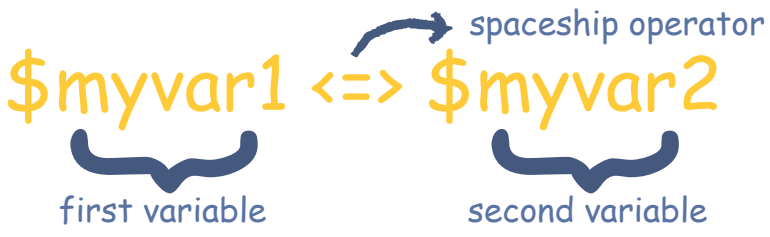
```
<?php
$a = 4;
$b = '4';
if ($a == $b)
{
    echo 'a and b are equal'; // this will be printed

}
if ($a === $b)
{ //try removing one = and see what happens
    echo 'a and b are identical'; // this won't be printed

}
?>
```

In the above code snippet, the `==` operator returns true because the character `'4'` is cast to an integer.

Spaceship Operator

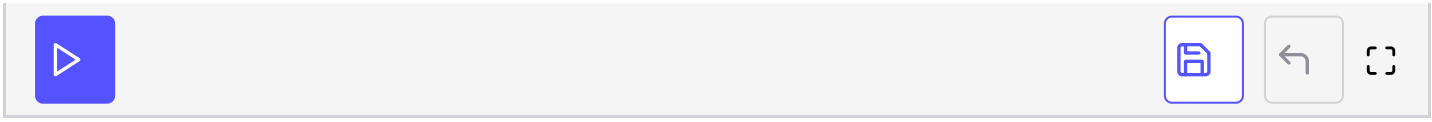
The spaceship operator (<=>) is a special kind of comparison operator. It

- returns `-1` if first expression is **lesser** than the second expression.
- returns `1` if the first expression is **greater** than the second expression.
- returns `0` if the first expression is **equal** to the second expression.



Run the code snippet below to see how it works

```php
<?php
// Integers
echo (1<=>1) . ","; //prints 0
echo (1<=>2) . ","; //prints -1
echo (2<=>1); //prints 1
echo "\n"; //skips to next line
// Floats
echo (1.5<=>1.5) . ","; //prints 0
echo (1.5<=>2.5) . ","; //prints -1
echo (2.5<=>1.5); //prints 1
echo "\n"; //skips to next line
// Strings
echo ("a"<=>"a") . ","; //prints 0
echo ("a"<=>"b") . ","; //prints -1
echo ("b"<=>"a"); //prints 1
?>
```



> **Remember:** Objects are not comparable, and doing so will result in undefined behavior.

Quick Quiz on Comparison Operators

What is the result of the following code?

```php
<?php
$a = 5;
$b = 2;
$c = 4;
if ($a < $b + $c)
{
    echo $a<=>($c - $b);
}
else
{
    echo ($c - $b) <=>$a;
}
?>
```

Retake Quiz

Now, let’s move on to logical operators in the next lesson.