

## JavaScript Operators

### What is an Operator?

Let us take a simple expression  $4 + 5$  is equal to 9. Here 4 and 5 are called operands and '+' is called the operator. JavaScript supports the following types of operators.

1. Arithmetic Operators
2. Comparison Operators
3. Logical (or Relational) Operators
4. Assignment Operators
5. Conditional (or ternary) Operators

Let's have a look on all operators one by one.

### Arithmetic Operators

```
<html>
<body>

<script type = "text/javascript">
  <!--
    var a = 33;
    var b = 10;
    var c = "Test";
    var linebreak = "<br />";
```

#### Addition:-

```
document.write("a + b = ");
result = a + b;
document.write(result);
document.write(linebreak);
```

#### Subtraction:-

```
document.write("a - b = ");
result = a - b;
document.write(result);
document.write(linebreak);
```

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## Division:-

```
document.write("a / b = ");
result = a / b;
document.write(result);
document.write(linebreak);
```

## Modulus:-

```
document.write("a % b = ");
result = a % b;
document.write(result);
document.write(linebreak);

document.write("a + b + c = ");
result = a + b + c;
document.write(result);
document.write(linebreak);
```

## Increment:-

```
a = ++a;
document.write("++a = ");
result = ++a;
document.write(result);
document.write(linebreak);
```

## Decrement:-

```
b = --b;
document.write("--b = ");
result = --b;
document.write(result);
document.write(linebreak);

//-->
</script>
```

Set the variables to different values and then try...

```
</body>
</html>
```

## Comparison Operators

```
<html>
<body>
  <script type = "text/javascript">
    <!--
```

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```
var a = 10;  
var b = 20;  
var linebreak = "<br />";
```

## **== (Equal)**

```
document.write("(a == b) => ");  
result = (a == b);  
document.write(result);  
document.write(linebreak);
```

## **< (Less than)**

```
document.write("(a < b) => ");  
result = (a < b);  
document.write(result);  
document.write(linebreak);
```

## **> (Greater than)**

```
document.write("(a > b) => ");  
result = (a > b);  
document.write(result);  
document.write(linebreak);
```

## **!= (Not Equal)**

```
document.write("(a != b) => ");  
result = (a != b);  
document.write(result);  
document.write(linebreak);
```

## **>= (Greater than or Equal to)**

```
document.write("(a >= b) => ");  
result = (a >= b);  
document.write(result);  
document.write(linebreak);
```

## **<= (Less than or Equal to)**

```
document.write("(a <= b) => ");  
result = (a <= b);  
document.write(result);  
document.write(linebreak);
```

```
//-->
```

```
</script>
```

Set the variables to different values and different operators and then try...

---

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```
</body>
</html>
```

## Logical Operators

```
<html>
<body>
  <script type = "text/javascript">
    <!--
      var a = true;
      var b = false;
      var linebreak = "<br />";
```

### && (Logical AND)

```
document.write("(a && b) => ");
result = (a && b);
document.write(result);
document.write(linebreak);
```

### || (Logical OR)

```
document.write("(a || b) => ");
result = (a || b);
document.write(result);
document.write(linebreak);
```

### ! (Logical NOT)

```
document.write("! (a && b) => ");
result = (!(a && b));
document.write(result);
document.write(linebreak);
```

```
//-->
```

```
</script>
```

```
<p>Set the variables to different values and different operators and then try...</p>
```

```
</body>
```

```
</html>
```

## Bitwise Operators

```
<html>
<body>
  <script type = "text/javascript">
    <!--
      var a = 2; // Bit presentation 10
      var b = 3; // Bit presentation 11
```

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---

```
var linebreak = "<br />";
```

## **& (Bitwise AND)**

```
document.write("(a & b) => ");
result = (a & b);
document.write(result);
document.write(linebreak);
```

## **| (BitWise OR)**

```
document.write("(a | b) => ");
result = (a | b);
document.write(result);
document.write(linebreak);
```

## **^ (Bitwise XOR)**

```
document.write("(a ^ b) => ");
result = (a ^ b);
document.write(result);
document.write(linebreak);
```

## **~ (Bitwise Not)**

```
document.write("(~b) => ");
result = (~b);
document.write(result);
document.write(linebreak);
```

## **<< (Left Shift)**

```
document.write("(a << b) => ");
result = (a << b);
document.write(result);
document.write(linebreak);
```

## **>> (Right Shift)**

```
document.write("(a >> b) => ");
result = (a >> b);
document.write(result);
document.write(linebreak);
```

```
//-->
```

```
</script>
```

```
<p>Set the variables to different values and different operators and then try...</p>
```

```
</body>
```

```
</html>
```

## Assignment Operators

```
<html>
<body>
  <script type = "text/javascript">
    <!--
      var a = 33;
      var b = 10;
      var linebreak = "<br />";\
```

### = (Simple Assignment )

```
document.write("Value of a => (a = b) => ");
result = (a = b);
document.write(result);
document.write(linebreak);
```

### += (Add and Assignment)

```
document.write("Value of a => (a += b) => ");
result = (a += b);
document.write(result);
document.write(linebreak);
```

### -= (Subtract and Assignment)

```
document.write("Value of a => (a -= b) => ");
result = (a -= b);
document.write(result);
document.write(linebreak);
```

### \*= (Multiply and Assignment)

```
document.write("Value of a => (a *= b) => ");
result = (a *= b);
document.write(result);
document.write(linebreak);
```

### /= (Divide and Assignment)

```
document.write("Value of a => (a /= b) => ");
result = (a /= b);
document.write(result);
document.write(linebreak);
```

### %= (Modules and Assignment)

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---

```
document.write("Value of a => (a %= b) => ");
result = (a %= b);
document.write(result);
document.write(linebreak);
//-->
</script>
<p>Set the variables to different values and different operators and then try...</p>
</body>
</html>
```

## Conditional Operator ( ? : )

```
<html>
<body>
  <script type = "text/javascript">
    <!--
      var a = 10;
      var b = 20;
      var linebreak = "<br />";

      document.write ("((a > b) ? 100 : 200) => ");
      result = (a > b) ? 100 : 200;
      document.write(result);
      document.write(linebreak);

      document.write ("((a < b) ? 100 : 200) => ");
      result = (a < b) ? 100 : 200;
      document.write(result);
      document.write(linebreak);
    //-->
  </script>
  <p>Set the variables to different values and different operators and then try...</p>
</body>
</html>
```

## Output

```
((a > b) ? 100 : 200) => 200
((a < b) ? 100 : 200) => 100
```