**Equals Operators**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Operator** | **Name of Operator** | **Definition** | **Example** |
| = | Assignment Operator | Assigns a value to a variable. | let fruit = "apple" |
| == | Loose Equality Operator | Compares two operands by value. Attempts to convert and compare operands of different types. Returns a boolean. | console.log(1 == "1") => True |
| === | Strict Equality Operator | Compares two operands to see if the value and type are equal. Returns a boolean. | console.log(1 === "1") => False |
| != | Loose Inequality Operator | Compares two operands by value and checks if the two are not equal. Returns a boolean. | console.log(1 != “1”) => False |
| !== | Strict Inequality Operator | Compares two operands by value and type to see if the two operands are not equal. Returns a boolean. | console.log(1 !== 2) => True |

**Comparison Operators**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Operator** | **Name of Operator** | **Definition** | **Example** |
| < | Less Than Operator | The less than (<) operator returns true if the left operand is less than the right operand | console.log(3 < 5)  // Prints True |
| <= | Less Than or Equal To Operator | The less than or equal to (<=) operator returns true if the left operand is less or equal to the right operand | console.log(5 <= 5)  // Prints True |
| > | Greater Than Operator | The greater than (>) operator returns true if the left operand is greater than the right operand | console.log(7 > 5)  // Prints True |
| >= | Greater Than or Equal To Operator | The greater than or equal to (<=) operator returns true if the left operand is greater or equal to the right operand | console.log(5 >= 5)  // Prints True |

**Truthy and Falsy Values**

|  |  |
| --- | --- |
| **Falsy Values** | **Truthy Values** |
| false | true |
| "" (empty strings) | Strings, except for empty strings |
| 0 (number zero) | All numbers except for zero. |
| null | ( ) (empty functions) |
| undefined | [ ] (empty arrays) |
| NaN | { } (empty objects) |
|  | All other values |

Logical Operators

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Operator** | **Name of Operator** | **Definition** | **Example 1** |
| ! | Bang or NOT | Reverses the value of a boolean. | console.log(!true)  // Prints false |
| && | AND | An operator for a set of boolean operands. If and only if all the operands are true will the result be true. | console.log(1 === 1 && 2 === "2")  // Return false |
| || | OR | An operator for a set of boolean operands. If at least one of the operations is true, the result will be true. | console.log(1 === 1 || 2 === "2")  // Return true |

AndChart

|  |  |  |
| --- | --- | --- |
| **conditionA** | **conditionB** | **conditionA AND conditionB** |
| true | true | true |
| true | false | false |
| false | true | false |
| false | false | false |

**Or Chart**

|  |  |  |
| --- | --- | --- |
| **conditionA** | **conditionB** | **conditionA OR conditionB** |
| true | true | true |
| true | false | true |
| false | true | true |
| false | false | false |

Not/Bang Chart

|  |  |
| --- | --- |
| **statement** | **not statement** |
| true | false |
| false | true |