JavaScript 50 Q&A: Arithmetic, Assignment, Comparison, Logical Operators

Q1 [Interview] What are arithmetic operators in JS?

Ans: They perform basic math operations: +, -, *, /, %, ++, --.

Q2 [Interview] What is the use of % operator?

Ans: It gives the remainder after division.

```
10 % 3 // 1
```

Q3 [Interview] What is the difference between pre and post increment?

Ans: Pre (++a) increments before use, post (a++) after.

Q4 [Interview] Explain assignment operators.

Ans: Used to assign values and combine with arithmetic. Examples: =, +=, -=.

Q5 [Interview] What are comparison operators?

Ans: They compare values. Examples: ==, ===, !=, !==, >, <, >=, <=.

Q6 [Interview] What is the difference between == and ===?

Ans: == compares value, === compares value and type.

Q7 [Interview] What does '!=' do?

Ans: Checks inequality of values (loose).

Q8 [Interview] What are logical operators?

Ans: Used to combine expressions: &&, ||, !

Q9 [Interview] What does && return?

Ans: Returns first falsy or last truthy value.

Q10 [Interview] What does || return?

Ans: Returns first truthy value.

Q11 [Interview] What does ! (not) operator do?

Ans: Converts operand to boolean and negates it.

Q12 [Interview] Explain truthy and falsy values.

Ans: Truthy evaluates to true in boolean context; falsy includes 0, '', null, undefined, NaN.

Q13 [Interview] Can you chain assignment operators?

Ans: Yes, right-to-left associativity.

```
let a = b = c = 5;
```

Q14 [Interview] Is comparison operator result a boolean?

Ans: Yes, it returns true or false.

Q15 [Interview] What is short-circuiting in logical ops?

Ans: Evaluation stops once result is determined.

Q16 [DSA] Find remainder when number is divided by 7.

Ans: Use modulus operator.

```
let r = num % 7;
```

Q17 [DSA] Check if a number is divisible by 3 and 5.

Ans: Use logical AND.

```
num % 3 === 0 && num % 5 === 0
```

Q18 [DSA] Assign 1 to x if y is even using ternary operator.

Ans: Use conditional operator.

```
let x = y % 2 === 0 ? 1 : 0;
```

Q19 [DSA] Swap values using arithmetic operators.

Ans: Use + and - (no temp).

```
a = a + b; b = a - b; a = a - b;
```

Q20 [DSA] Compare two strings lexically.

Ans: Use comparison operator.

```
'apple' < 'banana' // true
```

Q21 [DSA] Assign max of two numbers using ternary.

Ans: Use ?: operator.

```
let max = a > b ? a : b;
```

Q22 [DSA] Assign result of a + b only if both are > 0.

Ans: Use && operator.

```
let result = a > 0 && b > 0 ? a + b : 0;
```

Q23 [DSA] Check if number is odd using ! operator.

Ans: Invert even check.

```
! (num % 2 === 0)
```

Q24 [DSA] Evaluate compound logical expression.

Ans: Use precedence of && > ||.

```
true || false && false // true
```

Q25 [DSA] Assign variable if another is falsy.

Ans: Use ||= or ternary.

```
x = x || 'default';
```

Q26 [DSA] Negate a boolean variable.

Ans: Use ! operator.

```
flag = !flag;
```

Q27 [DSA] Calculate (a + b) % c using expression.

Ans: Group using ()

```
(a + b) % c
```

Q28 [DSA] Use assignment in loop.

Ans: Use +=, *= inside loop.

```
sum += arr[i];
```

Q29 [DSA] Check if value is within range [10, 20].

Ans: Use && operator.

```
x >= 10 && x <= 20
```

Q30 [DSA] Assign truthy fallback using ||.

Ans: Use logical OR for fallback.

```
let val = input || 'default';
```

Q31 [LeetCode] What is output of 5 + '5'?

Ans: '55' (string)

Q32 [LeetCode] What is '5' - 2?

Ans: 3 (coerced subtraction)

Q33 [LeetCode] Output of true + false?

Ans: 1 (true = 1, false = 0)

Q34 [LeetCode] '10' > 5?

Ans: true (coerced to number)

Q35 [LeetCode] '5' === 5?

Ans: false (different types)

Q36 [LeetCode] Output: 2 * '3'?

Ans: 6

Q37 [LeetCode] typeof (3 == '3')?

Ans: boolean

Q38 [LeetCode] 5 && 0 || 1?

Ans: 0 || 1 = 1

Q39 [LeetCode] !undefined == true?

Ans: true

Q40 [LeetCode] 'a' < 'b'?

Ans: true (lexical order)

Q41 [Conceptual] Can == return true for different types?

Ans: Yes. Due to coercion.

Q42 [Conceptual] What is !! operator used for?

Ans: Convert any value to boolean.

Q43 [Conceptual] How is assignment operator evaluated?

Ans: Right to left.

Q44 [Conceptual] What is output of 0 && 5?

Ans: 0 (first falsy)

Q45 [Conceptual] true || false && false?

Ans: true (precedence of &&)

Q46 [Conceptual] Output of null == undefined?

Ans: true

Q47 [Conceptual] How to toggle boolean in one line?

Ans: Use: flag = !flag;

Q48 [Conceptual] What does a ||= b do?

Ans: Assigns b only if a is falsy.

Q49 [Conceptual] typeof comparison result?

Ans: Always boolean.

Q50 [Conceptual] Use of comma operator in assignment?

Ans: Evaluates all, returns last.

```
let x = (1, 2, 3); // x = 3
```