

✓ 1. Arithmetic Operators

Used to perform mathematical operations.

Operator	Description	Example	Output
+	Addition	5 + 3	8
-	Subtraction	5 - 3	2
*	Multiplication	5 * 3	15
/	Division	6 / 2	3
%	Modulus (remainder)	5 % 2	1
**	Exponentiation	2 ** 3	8

✓ 2. Assignment Operators

Used to assign values to variables.

Operator	Description	Example	Meaning
=	Assign	x = 10	x = 10
+=	Add and assign	x += 5	x = x + 5
-=	Subtract and assign	x -= 3	x = x - 3

✓ 3. Comparison Operators

Used to compare two values.

Operator	Description	Example	Output
==	Equal (loose)	5 == '5'	true
===	Equal (strict)	5 === '5'	false
!=	Not equal (loose)	5 != '5'	false
!==	Not equal (strict)	5 !== '5'	true
>	Greater than	6 > 3	true
<	Less than	6 < 3	false
>=	Greater or equal	6 >= 6	true
<=	Less or equal	5 <= 4	false

✓ 4. Logical Operators

Used to combine multiple conditions.

Operator	Description	Example	Result
&&	AND	true && false	false
`		`	OR
!	NOT	!true	false

✓ 5. Ternary Operator

A shorthand for if-else.

SECTION 1: Variables & Data Types

1. Declare variables of different data types

2. Identify the type of each variable using `typeof`

```
let city = "Pune";
let temperature = 32;
let isRainy = false;
let nothing = null;
let noValue;
```

3. Reassign a `let` and `const` variable and observe the behavior.

◆ SECTION 2: Arithmetic Operators

4. Create a program to calculate:

- Area of a rectangle (length \times width)
 - Perimeter of a rectangle ($2 \times (\text{length} + \text{width})$)
 - Average of 3 numbers
-

◆ SECTION 3: Assignment Operators

5. Use `+=`, `-=`, `*=`, `/=`, `%=` on a variable and show its updated value after each step.

◆ SECTION 4: Comparison Operators

6. Check and print the output:

```
console.log(5 == '5');    // ?  
console.log(5 === '5');  // ?  
console.log(10 != '10'); // ?  
console.log(10 !== '10');// ?
```

7. Write a condition to check:

- if a number is **even**
 - if two numbers are **equal**
-

◆ SECTION 5: Logical Operators

8. Write a program to check:

- if a user is eligible to vote (**age \geq 18 && citizenship is 'India'**)
 - if a number is **positive or even**
-

◆ SECTION 6: Ternary Operator

9. Use ternary operator to:

- Check if a number is odd or even
 - Assign `grade = "Pass"` if marks \geq 40, else "Fail"
-

10. Make a small calculator (Add, Subtract, Multiply, Divide) using user inputs.

HTML Questions

What is HTML?

What are tags and attributes in HTML?

Difference between `<div>` and ``?

What is the purpose of the `<!DOCTYPE html>` declaration?

What are semantic elements? Name a few.

What is the difference between `` and ``? `` and `<i>`?

How do you create a hyperlink in HTML?

What is the purpose of `alt` attribute in `` tag?

How do you create a list (ordered and unordered)?

What are the different input types in HTML forms?

What is the use of the `<meta>` tag?

Difference between `id` and `class` attributes?

How to embed a video/audio in HTML?

What is the `<iframe>` tag used for?

What is the difference between `<section>`, `<article>`, `<aside>`, and `<nav>`?

How do HTML forms work? How are they submitted?

What is local storage vs session storage?

What are custom data attributes (`data-*`)?

What is the difference between HTML4 and HTML5?

How does HTML handle accessibility (e.g., ARIA roles)?

How can you make a page mobile responsive using HTML?

CSS Questions

✓ Basic

What is CSS and why is it used?

Difference between internal, external, and inline CSS?

What is the syntax of a CSS rule?

What are classes and IDs in CSS?

How do you apply styles to multiple elements?

What is the difference between `em`, `rem`, `px`, `%` units?

What are pseudo-classes? (e.g., `:hover`, `:first-child`)

What is the box model in CSS?

Explain `position` property (`static`, `relative`, `absolute`, `fixed`, `sticky`)

What is `z-index` and how does it work?

What is the difference between `visibility: hidden` and `display: none`?

How does `float` and `clear` work?

What is Flexbox? Give a layout example.

What is CSS Grid and how is it different from Flexbox?

How does `calc()` work in CSS?

Explain the CSS specificity hierarchy.

What is the difference between `inherit`, `initial`, and `unset`?

What is media query and how is it used for responsive design?

What is the difference between `min-width` and `max-width` in media queries?

How can you animate elements using only CSS?