JavaScript Chapter: Arithmetic, Conditionals, typeof, and String Manipulation

JavaScript Chapter

Section 1: Arithmetic Operators

+ Addition   -> Example: 10 + 5 = 15

- Subtraction   -> Example: 10 - 3 = 7

* Multiplication -> Example: 4 * 5 = 20

/ Division   -> Example: 20 / 4 = 5

% Modulus   -> Example: 10 % 3 = 1

Section 2: Conditional (Comparison) Operators

==   Equal to (type conversion allowed)

===   Strict equal (no conversion)

!=   Not equal

!==   Strict not equal

>   Greater than

<   Less than

>=   Greater than or equal to

<=   Less than or equal to

Section 3: Conditional Statements

if Statement:

if (age >= 18) {

  console.log("You are an adult.");

}

if...else Statement:

if (marks >= 50) {

```
  console.log("Pass");
} else {
  console.log("Fail");
}
```

else if Ladder:

```
if (grade >= 90) {
  console.log("A+");
} else if (grade >= 80) {
  console.log("A");
} else if (grade >= 70) {
  console.log("B");
} else {
  console.log("Fail");
}
```

Nested if:

```
if (age >= 18) {
  if (hasID) {
    console.log("You may enter.");
  } else {
    console.log("ID required.");
  }
}
```

Ternary Operator:

```
let message = isMember ? "Discount applied" : "No discount";
```

Section 4: typeof Operator

```
typeof "Hello"      -> string
```

JavaScript Chapter: Arithmetic, Conditionals, typeof, and String Manipulation

typeof 42   -> number

typeof true   -> boolean

typeof undefined   -> undefined

typeof null   -> object

typeof {}   -> object

Section 5: String Manipulation Methods

toUpperCase(), toLowerCase(), trim(), includes(), slice(), replace(), length

Section 6: Exercises

1. Arithmetic Practice with a = 12, b = 5

2. Age Check using if (age = 19)

3. Pass/Fail using if...else (marks = 42)

4. Grade with else if (score = 74)

5. Nested Login Check (username = "admin", password = "1234")

6. Weather Ternary (temp = 25)

7. typeof on variables a, b, c, d, e

8. String Cleanup with "Success is not final..."

9. Substring and Slice on "JavaScript is awesome"

10. All-in-one on " Code Pro "