

1 JavaScript Conditional Statements (Overview)

Conditionals are used to make decisions in JavaScript. They check a condition and run different code based on true or false.

2 JavaScript if Statement

What it does

Executes code only if the condition is true.

Syntax

```
if (condition) {  
    // code runs if condition is true  
}
```

Example

```
let age = 20;
```

```
if (age >= 18) {  
    console.log("You are eligible to vote");  
}
```

Use

- ✓ When only one condition needs to be checked.
-

3 JavaScript if...else

What it does

Runs one block if condition is true, otherwise runs else block.

Syntax

```
if (condition) {  
    // true block  
} else {  
    // false block  
}
```

Example

```
let age = 16;
```

```
if (age >= 18) {  
    console.log("You can vote");  
} else {  
    console.log("You cannot vote");  
}
```

Use

- ✓ When you need two outcomes (yes/no).
-

4 JavaScript else if

What it does

Checks multiple conditions.

Example

```
let marks = 75;
```

```
if (marks >= 90) {  
    console.log("Grade A");  
} else if (marks >= 60) {  
    console.log("Grade B");  
} else {  
    console.log("Fail");  
}
```

Use

✓ When there are many conditions.

5 JavaScript Ternary Operator (? :)

What it does

A short form of if...else (one-line condition).

Syntax

```
condition ? value_if_true : value_if_false;
```

Example

```
let age = 17;
```

```
let result = (age >= 18) ? "Adult" : "Minor";  
console.log(result);
```

Same as:

```
if (age >= 18) {  
    result = "Adult";  
} else {  
    result = "Minor";  
}
```

Use

✓ When condition is simple and short

6 JavaScript switch Statement

What it does

Used to check one value against many cases.

Syntax

```
switch (expression) {  
    case value1:  
        // code  
        break;  
    case value2:
```

```
// code  
break;  
default:  
// code  
}
```

Example

```
let day = 3;
```

```
switch (day) {  
    case 1:  
        console.log("Monday");  
        break;  
    case 2:  
        console.log("Tuesday");  
        break;  
    case 3:  
        console.log("Wednesday");  
        break;  
    default:  
        console.log("Invalid day");  
}
```

Use

- ✓ Best for menus, options, fixed values
-

7 JavaScript Booleans

What it is

Boolean has only two values:

true

false

Example

```
let isLoggedIn = true;
```

```
if (isLoggedIn) {  
    console.log("Welcome User");  
}
```

Boolean Comparison

```
console.log(5 > 3); // true  
console.log(5 < 3); // false
```

Use

- ✓ For conditions, flags, checks
-

8 JavaScript Logical Operators

Used to combine conditions.

Operator Meaning

&& AND

|| OR

! NOT

- ◆ Logical AND (&&)

Both conditions must be true.

```
let age = 20;
```

```
let hasID = true;
```

```
if (age >= 18 && hasID) {  
    console.log("Allowed entry");  
}
```

- ◆ Logical OR (||)

Any one condition must be true.

```
let isAdmin = false;
```

```
let isTeacher = true;
```

```
if (isAdmin || isTeacher) {  
    console.log("Access granted");
```

}

- ◆ Logical NOT (!)

Reverses the result.

```
let isOnline = false;
```

```
if (!isOnline) {  
    console.log("User is offline");  
}
```

Summary Table

Concept Use

if Single condition

if else Two conditions

else if Multiple conditions

ternary Short if-else

switch Fixed values

boolean true / false

logical Combine conditions
