

## 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.

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## 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.

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## 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).

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## 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.

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## **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

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## 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

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## 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

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## 8 JavaScript Logical Operators

Used to combine conditions.

## Operator Meaning

&&      AND

||        OR

!        NOT

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### ◆ Logical AND (&&)

Both conditions must be true.

```
let age = 20;
```

```
let hasID = true;
```

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

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### ◆ 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");  
}
```

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## 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

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