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1. Understanding the Code

Here's the first version of the code:

```
if ((x === y || a === b) && c === d) {
  g = h;
} else {
  e = f;
}
```

✓ How it works?

- If **either** `x === y` **OR** `a === b` **AND** `c === d`, then `g = h`.
- If `c !== d`, then `e = f`.
- Everything depends on `c === d`. If it's **false**, the `else` block executes immediately.

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2. Alternative: Using Nested If Statements

The same logic can be written in a **nested** format.

```
if (c === d) {
  if (x === y) {
    g = h;
  } else if (a === b) {
    g = h;
  } else {
    e = f;
  }
} else {
  e = f;
}
```

✓ How it works?

1. **First check:** `if (c === d)`
   - If **false**, it directly goes to the `else { e = f; }` part.
2. **If `c === d` is true**, we then check:
   - `if (x === y) → g = h;`
   - If `x !== y`, check `else if (a === b) → g = h;`
   - If both are false, execute `else → e = f;`

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3. Which Version is Better?

✅ Concise Version (Multiple Conditions in One `if`)

```
if ((x === y || a === b) && c === d) {
  g = h;
} else {
  e = f;
}
```

✔ Pros:

- **Shorter & more readable** for simple conditions.
- Works well if you don't need step-by-step checks.

✔ Cons:

- **Hard to debug** if you have many conditions.
- Can become complex quickly.

✅ Nested Version

```
if (c === d) {
  if (x === y) {
    g = h;
  } else if (a === b) {
    g = h;
  } else {
    e = f;
  }
} else {
  e = f;
}
```

✔ Pros:

- **Easier to follow step by step** when debugging.
- Makes it **clear which condition is checked first**.
- Useful when handling **many cases** with different logic.

✔ Cons:

- Slightly **longer** code.
- More **indentation** required.

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4. Summary

Approach	Best For	Pros	Cons
Multiple Conditions in One `if`	Simple cases	Shorter, more readable	Hard to debug if complex
Nested `if` Statements	Complex cases	Easier to debug, clear condition flow	Longer code, more indentation

◆ **Rule of Thumb**:

- If there are **few conditions**, use **one `if` with multiple conditions**.
- If conditions **depend on each other**, **use nested ifs** for clarity.