

Explain filter in JavaScript



explain filter in javascript

Here is **the simplest, beginner-friendly, crystal-clear explanation of filter in JavaScript**, exactly the way you like — slow, step-by-step, with examples.

★ What is filter in JavaScript?

`filter()` is an **array method**.

- 👉 It **loops through each element** of the array
- 👉 Checks a **condition** you give (true/false)
- 👉 **Creates a NEW array** only with elements where the condition is **true**
- 👉 It **does NOT change the original array**

★ Syntax

```
js

array.filter(function(element, index, array) {
  return condition; // true / false
});
```

Where:

- **element** → current item
- **index** → position (0,1,2...)
- **array** → the whole original array
- You MUST return **true** to keep the element
- Return **false** to remove it

★ Easy Example

Example: Keep only numbers greater than 10

```
js

const arr = [5, 12, 8, 20];
const result = arr.filter(num => num > 10);
console.log(result);
```

Output:

csharp

[12, 20]

WHY?

- 5 → not >10 → ✗ removed
- 12 → >10 → ✓ kept
- 8 → ✗ removed
- 20 → ✓ kept

★ Example 2: Remove falsy values

js

```
const arr = ["hello", "", null, "react", undefined];
const cleaned = arr.filter(Boolean);
console.log(cleaned);
```

Output:

css

["hello", "react"]

WHY?

Because `Boolean()` converts:

- "" → false
- null → false
- undefined → false
- Only truthy values remain

★ Example 3: Filter objects

Suppose you want only **active users**:

js

```
const users = [
  { name: "Vipul", active: true },
  { name: "Rohan", active: false },
  { name: "Amit", active: true }
];
```

```
const activeUsers = users.filter(user => user.active);
console.log(activeUsers);
```

Output:

```
yaml
[
  { name: "Vipul", active: true },
  { name: "Amit", active: true }
]
```

★ Example 4: Keep even numbers

```
js
const arr = [1,2,3,4,5];
const evens = arr.filter(n => n % 2 === 0);
console.log(evens);
```

Output:

```
csharp
[2,4]
```

★ Key Points to Remember

Feature	Explanation
Creates new array	Original array not changed
Needs a return value	true → keep, false → remove
Does not mutate	Safe method
Runs callback for every item	Just like map

★ Visual Understanding

Think of `filter()` as a **sieve** (छलनी) 😊

You pour all items into it

It keeps only what you want

Removes the rest

If you want, I can also give:

- ✓ 20 filter interview questions
- ✓ Easy → Medium → Hard questions

✓ Real-world React examples

✓ Debugging tips

Just tell me 