

# Java Stream Methods with Examples (Interview Notes)

## 1. filter()

Filters elements based on a condition.

```
List evens = nums.stream()
    .filter(n -> n % 2 == 0)
    .toList();
```

## 2. map()

Transforms each element.

```
List upper = names.stream()
    .map(String::toUpperCase)
    .toList();
```

## 3. flatMap()

Flattens nested lists.

```
list.stream()
    .flatMap(l -> l.stream())
    .toList();
```

## 4. sorted()

Sorts elements.

```
list.stream().sorted().toList();
```

## 5. distinct()

Removes duplicates.

```
list.stream().distinct().toList();
```

## 6. limit()

Limits number of elements.

```
list.stream().limit(3).toList();
```

## 7. skip()

Skips first N elements.

```
list.stream().skip(2).toList();
```

## 8. forEach()

Iterates over elements.

```
list.stream().forEach(System.out::println);
```

## 9. collect()

Collects output to list/set/map.

```
list.stream().collect(Collectors.toList());
```

## 10. reduce()

Reduces elements to a single value.

```
int sum = list.stream().reduce(0, (a,b) -> a + b);
```

## 11. anyMatch() / allMatch() / noneMatch()

Checks match conditions.

```
nums.stream().anyMatch(n -> n > 3);
```

## 12. findFirst() / findAny()

Gets first or any element.

```
list.stream().findFirst().get();
```

## 13. count()

Counts elements.

```
list.stream().count();
```

## **14. peek()**

Debug inside stream.

```
list.stream().peek(System.out::println).toList();
```

## **15. toList()**

Collects results to list (Java 16+).

```
Stream.of(1,2,3).toList();
```