1. Given an array of numbers, return a new array where each number is doubled.

```
const numbers = [1, 2, 3, 4, 5];
```

Write the code to achieve this.

```
Ans:- const numbers = [1, 2, 3, 4, 5];
console.log(numbers.map(value=>value*2));
```

2. Write a function that filters out even numbers from an array.

```
const numbers = [10, 15, 20, 25, 30];
```

Expected output: [15, 25]

```
Ans:- const numbers = [10, 15, 20, 25, 30];
console.log(numbers.filter(value=>value % 2 == 0));
```

3. Given an array of strings, use map to convert each string to uppercase.

```
const words = ["apple", "banana", "cherry"];
```

```
Ans:- const words = ["apple", "banana", "cherry"];
console.log(words.map(word => word.toUpperCase()));
```

4. Use forEach to log each element of an array to the console.

```
const items = ["pen", "notebook", "eraser"];
```

```
Ans:- const items = ["pen", "notebook", "eraser"];
items.forEach((ele) => console.log(ele));
```

5. Given an array of numbers, use reduce to find the sum of all elements.

```
const numbers = [5, 10, 15, 20];
```

```
Ans:- const numbers = [5, 10, 15, 20];
res= numbers.reduce((a,b)=>a+b);
console.log(res);
```

6. Given an array of numbers, use `filter` to remove odd numbers, then use `map` to square the remaining numbers.

```
const numbers = [1, 2, 3, 4, 5, 6];
```

```
Ans:- const numbers = [1, 2, 3, 4, 5, 6];

let res=numbers.filter((ele)=>ele%2==0).

map((ele)=>ele*ele);

console.log(res)
```

7. Chain `map`, `filter`, and `reduce` to find the sum of squares of only the even numbers.

```
const numbers = [1, 2, 3, 4, 5, 6];
```

```
Ans:- const numbers = [1, 2, 3, 4, 5, 6];

let res=numbers.filter((ele)=> ele % 2==0).

map((ele)=>ele*ele).reduce((a,b)=>a+b);

console.log(res);
```

8. Given an array of objects representing people, filter out those below 18, then use map to extract their names.

```
const people = [
  { name: "Alice", age: 25 },
  { name: "Bob", age: 16 },
  { name: "Charlie", age: 30 }
];
```

```
Ans:- const people = [
  { name: "Alice", age: 25 },
  { name: "Bob", age: 16 },
  { name: "Charlie", age: 30 }
];

people.filter((ele)=>ele.age<18)

.map((ele)=>console.log(ele.name));
```

9. Given an array of strings, use `map` and `filter` to remove empty strings and convert the remaining ones to lowercase.

```
const words = ["Hello", "", "WORLD", "JavaScript", ""];
```

```
Ans:- const words = ["Hello", "", "WORLD", "JavaScript", ""];
let res = words.filter(word => word !== "")
    .map(word => word.toLowerCase());
console.log(res);
```

10. Use `reduce` to group an array of numbers by even and odd.

```
const numbers = [1, 2, 3, 4, 5, 6];
```

Expected output: `{ even: [2, 4, 6], odd: [1, 3, 5] }`

```
Ans:- const numbers = [1, 2, 3, 4, 5, 6];
var newArray=numbers.reduce((acc,initialValue)=>{
    if (initialValue%2==0){
        acc.even.push(initialValue);
    }
    else{
        acc.odd.push(initialValue);
    }
    return acc;
},{even:[],odd:[]})
console.log('Even Numbers are : ',newArray.even)
console.log('Even Numbers are : ',newArray.odd)
```