

1. Practice: Square Every Number

Given an array of numbers, write a function using `map` that returns a new array where every number is squared.

```
let numbers = [2, 4, 6, 8];  
  
// Expected Output: [4, 16, 36, 64]
```

2. Practice: Filter Even Numbers

Write a function using `filter` that takes an array of numbers and returns only the even numbers.

```
let numbers = [1, 2, 3, 4, 5, 6, 7, 8];  
  
// Expected Output: [2, 4, 6, 8]
```

3. Practice: Sum of All Numbers

Write a function using `reduce` that takes an array of numbers and returns the sum of all numbers.

```
let numbers = [10, 20, 30, 40];  
  
// Expected Output: 100
```

4. Practice: Convert Names to Uppercase

You are given an array of names. Write a function using `map` that returns a new array with all names converted to uppercase.

```
let names = ['john', 'jane', 'doe'];  
  
// Expected Output: ['JOHN', 'JANE', 'DOE']
```

5. Practice: Find the Product of All Numbers

Given an array of numbers, write a function using `reduce` that returns the product of all the numbers (i.e., multiply them together).

```
let numbers = [1, 2, 3, 4];
```

```
// Expected Output: 24
```

6. Practice: Filter Strings with More Than 3 Characters

Write a function using `filter` that takes an array of strings and returns only the strings with more than 3 characters.

```
let words = ['cat', 'elephant', 'dog', 'mouse'];
```

```
// Expected Output: ['elephant', 'mouse']
```

7. Practice: Double Every Number

Write a function using `map` that doubles every number in an array and returns a new array.

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

```
// Expected Output: [2, 4, 6, 8, 10]
```

8. Practice: Count the Occurrences of a Word

Write a function using `reduce` that takes an array of words and a specific word, and returns how many times that word appears in the array.

```
let words = ['apple', 'banana', 'apple', 'orange', 'banana',  
  'apple'];
```

```
let wordToFind = 'apple';
```

```
// Expected Output: 3
```

9. Practice: Sum of Even Numbers

Write a function using `filter` and `reduce` that returns the sum of all even numbers in an array.

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

// Expected Output: 60 (10 + 20 + 30)
```

10. Practice: Find the Longest Word

Write a function using `reduce` that takes an array of words and returns the longest word.

```
let words = ['apple', 'banana', 'cherry', 'watermelon'];

// Expected Output: 'watermelon'
```

11. Practice: Filter Numbers Greater Than a Value

Write a function using `filter` that takes an array of numbers and a value, and returns only the numbers greater than the given value.

```
let numbers = [5, 10, 15, 20, 25, 30];
let value = 18;

// Expected Output: [20, 25, 30]
```

12. Practice: Flatten a 2D Array

Write a function using `reduce` that takes a 2D array and flattens it into a 1D array.

```
let array2D = [[1, 2], [3, 4], [5, 6]];

// Expected Output: [1, 2, 3, 4, 5, 6]
```

13. Practice: Filter Out Falsey Values

Write a function using `filter` that removes all **falsey** values (`false`, `0`, `null`, `undefined`, `NaN`, `' '`) from an array.

```
let values = [0, 'hello', false, null, 42, '', undefined];
```

```
// Expected Output: ['hello', 42]
```

14. Practice: Calculate the Average of Numbers

Write a function using `reduce` that calculates the average of an array of numbers.

```
let numbers = [10, 20, 30, 40, 50];
```

```
// Expected Output: 30
```
