Day 6: Arrays

Tasks/Activities:

Activity 1: Array Creation and Access

- **Task 1:** Create an array of numbers from 1 to 5 and log the array to the console.
- **Task 2:** Access the first and last elements of the array and log them to the console.

Activity 2: Array Methods (Basic)

- **Task 3:** Use the `push` method to add a new number to the end of the array and log the updated array.
- **Task 4:** Use the `pop` method to remove the last element from the array and log the updated array.
- **Task 5:** Use the `shift` method to remove the first element from the array and log the updated array.
- **Task 6:** Use the `unshift` method to add a new number to the beginning of the array and log the updated array.

Activity 3: Array Methods (Intermediate)

- **Task 7:** Use the `map` method to create a new array where each number is doubled and log the new array.
- **Task 8:** Use the `filter` method to create a new array with only even numbers and log the new array.
- **Task 9:** Use the `reduce` method to calculate the sum of all numbers in the array and log the result.

Activity 4: Array Iteration

- **Task 10:** Use a `for` loop to iterate over the array and log each element to the console.
- **Task 11:** Use the `forEach` method to iterate over the array and log each element to the console.

Activity 5: Multi-dimensional Arrays

- **Task 12:** Create a two-dimensional array (matrix) and log the entire array to the console.
- **Task 13:** Access and log a specific element from the two-dimensional array.

Feature Request:

1. **Array Manipulation Script**: Write a script that demonstrates the creation of an array, adding and removing elements using `push`, `pop`, `shift`, and `unshift` methods.
2. **Array Transformation Script**: Create a script that uses `map`, `filter`, and `reduce` methods to transform and aggregate array data.
3. **Array Iteration Script**: Write a script that iterates over an array using both `for` loop and `forEach` method and logs each element.
4. **Two-dimensional Array Script**: Create a script that demonstrates the creation and manipulation of a two-dimensional array.

Achievement:

By the end of these activities, students will:

- Create and manipulate arrays using various methods.
- Transform and aggregate array data using `map`, `filter`, and `reduce`.
- Iterate over arrays using loops and iteration methods.
- Understand and work with multi-dimensional arrays.