Set 1:

1. Write a function **isArmstrongNumber(n)** that takes a positive integer **n** as input and returns **true** if **n** is an Armstrong number, and **false** otherwise. An Armstrong number is a number that is equal to the sum of its own digits each raised to the power of the number of digits.

Example:

isArmstrongNumber(123); // false (1^3 + 2^3 + 3^3 = 36, not equal to 123)

1. Write a function **sortByLength(arr)** that takes an array of strings as input and returns a new array with the strings sorted by their lengths in ascending order.

Example:

isArmstrongNumber(123); // false (1^3 + 2^3 + 3^3 = 36, not equal to 123)

sortByLength(["apple", "banana", "cherry", "date"]); // ["date", "apple", "banana", "cherry"]

1. Write a function **sumDigits(n)** that takes a positive integer **n** as input and returns the sum of its digits.

Example:

sumDigits(456); // 15 (4 + 5 + 6 = 15)

1. Write a function **capitalizeLastLetters(str)** that takes a string as input and returns a new string where the last letter of each word is capitalized, and all other letters are in lowercase.

Example:

capitalizeLastLetters("javascript is AWESOME"); // "javascripT iS AWESOMe"

1. Write a function **findLargestNumber(arr)** that takes an array of numbers as input and returns the largest number in the array.

Example:

findLargestNumber([1, 5, 3, 9, 2]); // 9

1. Write JavaScript code that dynamically fetches data from an API and updates the content of a specific HTML element with the retrieved data.
2. Create a form validation script using JavaScript and the DOM. The script should validate the input fields before submitting the form and display error messages for invalid fields.
3. Implement a function that allows users to drag and drop HTML elements within a web page using JavaScript and the DOM.
4. Write a script that dynamically loads external content (such as HTML, CSS, or JavaScript files) into a webpage based on user interactions, using JavaScript and the DOM.
5. Implement a function that creates a modal window (popup) with customizable content and controls to close the modal, using JavaScript and the DOM.

Set 2:

1. Write a function **removeVowels(str)** that takes a string as input and returns a new string where all the vowels (a, e, i, o, u) are removed.

Example:

removeVowels("javascript"); // "jvscrpt"

1. Write a function **isPangram(str)** that takes a string as input and returns **true** if the string is a pangram (contains every letter of the alphabet at least once), and **false** otherwise.

Example:

isPangram("Hello world"); // false

1. Write a function **getUniqueValues(arr)** that takes an array as input and returns a new array with only the unique values (removing any duplicates).

Example:

getUniqueValues(["a", "b", "a", "c", "b"]); // ["a", "b", "c"]

1. Write a function **findCommonElements(arr1, arr2)** that takes two arrays as input and returns a new array containing the common elements that appear in both arrays.

Example:

findCommonElements(["apple", "banana", "pear"], ["banana", "orange"]); // ["banana"]

1. Write a function **isPerfectNumber(n)** that takes a positive integer **n** as input and returns **true** if **n** is a perfect number, and **false** otherwise. A perfect number is a positive integer that is equal to the sum of its proper divisors (excluding the number itself).

Example:

isPerfectNumber(28); // true (28 = 1 + 2 + 4 + 7 + 14)

1. Create a countdown timer using JavaScript and the DOM. The timer should start from a specified value and update every second until it reaches zero.
2. Implement a script that highlights the active navigation link based on the user's current scroll position on a web page.
3. Write JavaScript code that dynamically adds a CSS class to an HTML element when it is clicked and removes the class when another element is clicked.
4. Create a function that dynamically adds a new option to a select dropdown menu in the DOM, using user input.
5. Implement a script that detects and handles browser window resize events using JavaScript and the DOM.

Set 3:

1. Write a function removeConsecutiveDuplicates(arr) that takes an array as input and returns a new array where consecutive duplicate elements are removed.

Example:  
removeConsecutiveDuplicates(["a", "a", "b", "b", "b", "c"]); // ["a", "b", "c"]

1. Write a function titleCase(str) that takes a string as input and returns a new string where the first letter of each word is capitalized, and all other letters are in lowercase. Ignore leading, trailing, and multiple spaces between words.

Example:

titleCase("javascript is AWESOME"); // "Javascript Is Awesome"

1. Write a function countSubstringOccurrences(str, substr) that takes two strings as input and returns the number of occurrences of substr within str.

Example:  
countSubstringOccurrences("javascript is awesome", "is"); // 1

1. Write a function isPowerOfThree(n) that takes a positive integer n as input and returns true if n is a power of 3, and false otherwise.

Example:

isPowerOfThree(12); // false

1. string containing only the unique characters in the original string, maintaining the order of appearance.

Example:  
getUniqueCharacters("javascript is cool"); // "javscrit is col"

1. Write a script that creates a dynamic slideshow with fade-in and fade-out effects for images using JavaScript and the DOM.
2. Implement a function that calculates and displays the total word count, character count, and average word length of a given paragraph using JavaScript and the DOM.
3. Create a script that dynamically generates a table of contents for a web page based on the headings present in the content, using JavaScript and the DOM.
4. Implement a function that creates a modal window (popup) with customizable content and controls to close the modal, using JavaScript and the DOM.
5. Write JavaScript code that allows users to select and copy text from a specific HTML element with a button click, using the DOM.