DAY-25
Assignments

forEach

Question 1: Write a function called printArrayElements that takes an array as a parameter and prints each element of the array.

For example, The printArrayElements function takes an array arr as a parameter and uses the forEach loop to iterate through each element of the array. For each element, the function prints it to the console.

Question 2: Write a function called doubleArrayValues that takes an array of numbers as a parameter and doubles each element in the array.

For example, The doubleArrayValues function takes an array arr as a parameter and uses the forEach loop to iterate through each element of the array. For each element, the function doubles its value and updates the value in the original array.

Question 3: Write a function called filterPositiveNumbers that takes an array of numbers as a parameter and returns a new array containing only the positive numbers.

For example, The filterPositiveNumbers function takes an array arr as a parameter and uses the forEach loop to iterate through each element of the array. For each element, the function checks if it is greater than zero (positive) and adds it to a new array called positiveNumbers. The function then returns the positiveNumbers array, which contains only the positive numbers from the original array.

For of

Question 1: Write a function called printCharacters that takes a string as a parameter and prints each character of the string.

For example, The printCharacters function takes a string str as a parameter and uses the for...of loop to iterate through each character of the string. For each character, the function prints it to the console.

Question 2: Write a function called sumArray that takes an array of numbers as a parameter and calculates their sum using a for...of loop.

For example, The sumArray function takes an array numbersArray as a parameter and initializes a variable sum to store the sum. It uses a for...of loop to iterate through each element of the array. For each element, it adds the value to the sum. Finally, it returns the total sum of the array.

Question 3: Write a function called filterEvenNumbers that takes an array of numbers as a parameter and returns a new array containing only the even numbers.

For example, The filterEvenNumbers function takes an array numbersArray as a parameter and initializes a new array evenNumbers to store the even numbers. It uses a for...of loop to iterate through each element of the array

For in

Question 1: Write a function called printObjectProperties that takes an object as a parameter and prints all its key-value pairs.

For example, The printObjectProperties function takes an object obj as a parameter and uses the for...in loop to iterate through all the properties (keys) of the object.

Question 2: Write a function called countVowels that takes a string as a parameter and counts the number of vowels (a, e, i, o, u) in the string using a for...in loop.

For example, The countVowels function takes a string str as a parameter and initializes a variable vowelsCount to keep track of the number of vowels found. It also creates an array vowels containing all the vowel characters. The function uses a for...in loop to iterate through the indices (keys) of the string. For each

index, it checks if the character at that index is present in the vowels array (case-insensitive using toLowerCase()), and if it is a vowel, increments the vowelsCount. Finally, it returns the total count of vowels in the string.

Question 3: Write a function called calculateAverage that takes an object containing grades as a parameter and calculates the average grade.

For example, The calculateAverage function takes an object grades as a parameter, which contains the subject-grade pairs for a student. The function initializes variables total and count to store the sum of grades and the number of subjects, respectively.

While loop

Question 1: Write a function called countDown that takes a positive integer as a parameter and prints a countdown from that number to 1.

Question 2: Write a function called sumDigits that takes an integer as a parameter and returns the sum of its digits.

Question 3: Write a function called generateFibonacci that takes a positive integer n as a parameter and generates the first n numbers in the Fibonacci sequence.

Dowhile loop

Question 1: Write a function called printNumbers that takes a positive integer n as a parameter and prints numbers from 1 to n using a do...while loop.

Question 2: Write a function called sumPositiveNumbers that takes positive numbers as input from the user until a negative number is entered. The function should then calculate and return the sum of all positive numbers.

Question 3: Write a function called guessSecretNumber that generates a secret number between 1 and 100 (inclusive) and asks the user to guess the number. The function should keep asking for input until the user correctly guesses the secret number.

Events in JavaScript

Question 1: Create an HTML button that changes its text to "Clicked!" when clicked.

For example, Using JavaScript, we select the button element using document.getElementById(). We then add an event listener to the button for the "click" event. When the button is clicked, the event listener function changes the button's text content to "Clicked!".

Question 2: Create a webpage with an input field. When the user types in the input field, display the entered text in a <p> element below the input field.

For example, an HTML input field with the ID "textInput" and a paragraph element with the ID "displayText". We select both elements using document.getElementById(). We add an event listener to the input field for the "input" event. When the user types in the input field, the event listener function updates the paragraph's text content to the current value of the input field.

Question 3: Create an HTML page with an image. When the user hovers over the image, change its source to a different image, and when the user moves the mouse away, change it back to the original image.

For example, an HTML image with the ID "hoverImage". We select the image element using document.getElementById(). Store the original image source in the variable originalSrc and the new image source in the variable newSrc. Add two event listeners to the image: one for the "mouseenter" event (when the

user hovers over the image) and one for the "mouseleave" event (when the user moves the mouse away).