JavaScript Project 2 :

**String Manipulation Functions:**

* Reverse a String: Write a function that reverses a given string.

🡺 function strgReverse(a) {

    let reversedStr = '';

    for (let i = a.length - 1; i >= 0; i--) {

      reversedStr += a[i];

  }

  console.log(reversedStr);

  }

* Count Characters: Create a function that counts the number of characters in a string.

🡺 function countCharacters(a) {

 console.log(a.length );

}

countCharacters("countme")

=🡺7

* Capitalize Words: Implement a function that capitalizes the first letter of each word in a sentence.

🡺 function capitalizeWord() {

    let sentence = "my name is amine";

    const sen = sentence.split(' ');

    for (let i = 0; i < sen.length; i++) {

        sen[i] = sen[i].charAt(0).toUpperCase() + sen[i].slice(1);

    }

    let correctSen = sen.join(' ');

    console.log(correctSen);

}

capitalizeWord(); => Output: "My Name Is Amine"

**Array Functions:**

* Find Maximum and Minimum: Write functions to find the maximum and minimum values in an array of numbers.

🡺 var arry = [1, 5, 3, 2, 10, 6, 4, 8, 2, 7];

function minMax(arr) {

  let numMax = Math.max(...arr);

  let numMin = Math.min(...arr);

  console.log("Maximum value:", numMax);

  console.log("Minimum value:", numMin);

}

minMax(arry); 🡺output : Maximum value: 10 Minimum value: 1

* Sum of Array: Create a function that calculates the sum of all elements in an array.

🡺 const arry = [1, 5, 3, 2, 10, 6, 4, 8, 2, 8];

const total =arry.reduce(sumOfArry);

function sumOfArry (accumulator, element) {

return accumulator + element ;

}

console.log(total); ===> output :48

* Filter Array: Implement a function that filters out elements from an array based on a given condition.

🡺 function filterArray (arr, condition) {

return arr.filter(condition);

}

**Mathematical Functions:**

* Factorial: Write a function to calculate the factorial of a given number.

🡺 function factorial(n) {

    if (n === 0 || n === 1) {

        return 1;

    } return n \* factorial(n - 1);

} console.log(factorial())

* Prime Number Check: Create a function to check if a number is prime or not.

🡺 function isPrime(n) {

    if (n <= 1) {return false; }

    if (n === 2) { return true; }

    if (n % 2 === 0) { return false; }

    for (let i = 3; i < n; i += 2) {

        if (n % i === 0) {

    return false;

        }

    } return true;

}

console.log(isPrime());

* Fibonacci Sequence: Implement a function to generate the Fibonacci sequence up to a given number of terms.

🡺

function fibonacci(n) {

    if (n <= 1) {

        return n;

    }

    return fibonacci(n - 1) + fibonacci(n - 2);

}

function generateFibonacci(n) {

    let fibonacciSequence = [];

    for (let i = 0; i < n; i++) {

        fibonacciSequence.push(fibonacci(i));

    }

    return fibonacciSequence;

}

console.log( generateFibonacci());