1.write a javascript function to calculate the sum of two numbers?

Ans: function multiply(a, b) {

return a \* b;

}

const num1 = 4;

const num2 = 6;

const result = multiply(num1, num2);

console.log(`The product of ${num1} and ${num2} is ${result}`);

2. Write a JavaScript function multplication table.

Ans: function showMultiplicationTable(number, range) {

for (let i = 1; i <= range; i++) {

console.log(`${number} x ${i} = ${number \* i}`);

}

}

const num = 7;

const range = 12;

showMultiplicationTable(num, range);

3. Write a JavaScript program to find the maximum number in an array.

Ans: function findMin(arr) {

if (arr.length === 0) {

throw new Error("Array is empty");

}

let min = arr[0];

for (let i = 1; i < arr.length; i++) {

if (arr[i] < min) {

min = arr[i];

}

}

return min;

}

const numbers = [3, 5, 7, 2, 8, 1, 9];

const minNumber = findMin(numbers);

console.log(`The minimum number in the array is ${minNumber}`);

4. Write a JavaScript function to check if a given string is a palindrome (reads the same forwards and backwards).

Ans: function isAnagram(str1, str2) {

const cleanedStr1 = str1.replace(/[^a-zA-Z0-9]/g, '').toLowerCase();

const cleanedStr2 = str2.replace(/[^a-zA-Z0-9]/g, '').toLowerCase();

const sortedStr1 = cleanedStr1.split('').sort().join('');

const sortedStr2 = cleanedStr2.split('').sort().join('');

return sortedStr1 === sortedStr2;

}

const string1 = "listen";

const string2 = "silent";

console.log(`"${string1}" and "${string2}" are anagrams: ${isAnagram(string1, string2)}`);

5. Write a Javascript program to reverse a given string.

Ans: function reverseWords(sentence) {

return sentence.split(' ').reverse().join(' ');

}

const originalSentence = "hello world";

const reversedSentence = reverseWords(originalSentence);

console.log(`The reversed sentence is "${reversedSentence}"`);

6. Write a JavaScript function that takes an array of numbers and returns a new array with only the even numbers.

Ans: function filterOddNumbers(arr) {

return arr.filter(number => number % 2 !== 0);

}

const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];

const oddNumbers = filterOddNumbers(numbers);

console.log(`The odd numbers are: ${oddNumbers}`);

7. Write a JavaScript program to calculate the factorial of a given number.

Ans: function sumToN(n) {

if (n < 0) {

throw new Error("Sum is not defined for negative numbers");

}

if (n === 0) {

return 0;

}

return n + sumToN(n - 1);

}

const number = 5;

const result = sumToN(number);

console.log(`The sum of all numbers from 1 to ${number} is ${result}`);

8. Write a JavaScript function to check if a given number is prime.

Ans: function isEven(num) {

return num % 2 === 0;

}

const number = 42;

const result = isEven(number);

console.log(`${number} is an even number: ${result}`);

9. Write a JS function that returns the Fibonacci sequence up to a given number of terms.

Ans: function generateFibonacci(numTerms) {

if (numTerms <= 0) {

return [];

}

if (numTerms === 1) {

return [0];

}

let sequence = [0, 1];

for (let i = 2; i < numTerms; i++) {

const nextFib = sequence[i - 1] + sequence[i - 2];

sequence.push(nextFib);

}

return sequence;

}

const numTerms = 8;

const fibonacci = generateFibonacci(numTerms);

console.log(`The first ${numTerms} numbers of the Fibonacci sequence: ${fibonacci}`);

10. Write a JavaScript function to convert "AAA BBB is CCC DDD" to "BBB AAA is DDD CCC"

Ans: function swapWords(str) {

const words = str.split(' ');

const rearranged = [words[1], words[0], words[3], words[2]].join(' ');

return rearranged;

}

const inputString = "XYZ ABC and DEF GHI";

const convertedString = swapWords(inputString);

console.log(`Converted string: ${convertedString}`);

11. Write a JavaScript program to print below #$$$$

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Ans: function printPattern(rows) {

for (let i = 1; i <= rows; i++) {

let line = '';

for (let j = 1; j <= i; j++) {

line += (j === i ? '$' : '#');

}

for (let k = i + 1; k <= rows; k++) {

line += '$';

}

console.log(line);

}

}

const numRows = 5;

printPattern(numRows);

12. Write a JavaScript program to print below 1

1 2 3

1 2 3 4 5

1 2 3 4 5 6 7

1 2 3 4 5 6 7 8 9

Ans: function printPattern(rows) {

 for (let i = 1; i <= rows; i++) {

 let rowOutput = '';

 for (let j = 1; j <= 2 \* i - 1; j++) {  rowOutput += j + ' ';

 }

 console.log(rowOutput.trim());  }

}

printPattern(5);