1. Write a function which can return the sum of two numbers.

function add(a,b){

…………………

}

var sum = add(45,67);

console.log(sum);

1. Write a function which can return the greatest of the three numbers passed in arguments.

function compare(a,b,c){

…………………

}

var greatest = compare(45,67,23);

console.log(greatest);

1. Write a function which can print the given arguments in ascending order.

function sortNums(a,b,c){

…………………

}

var ascending = sortNums(45,7,68);

console.log(ascending);

1. Write a function which can return the factorial of a number.

function fact(a){

…………………

}

var factorial = fact(4);

console.log(factorial);

1. Write a function which can to return the reverse of a given number.

function rev(a){

…………………

}

var reverse = rev(4);

console.log(reverse);

## **🟢 Level 1: Basic Functions (Beginner)**

These assignments focus on simple function creation, arithmetic operations, and conditionals.

1. **Write a function to find the greatest of three numbers.**
2. **Write a function to sort three numbers in ascending order.**
3. **Write a function to return the factorial of a number.**
4. **Write a function to reverse a given number.**
5. **Write a function to check if a given number is a palindrome.**
6. **Write a function to check if a number is prime.**
7. **Write a function to return the number of digits in a number.**
8. **Write a function to print all even numbers between 1 and 20.**
9. **Write a function to calculate the cube of any number.**

## **🟡 Level 2: Intermediate Functions (Using Loops & Arrays)**

These assignments introduce loops, array operations, and higher-order functions.

1. **Write a function to find the maximum number in an array.**
2. **Write a function to find the minimum number in an array.**
3. **Write a function to find the sum of all numbers in an array using reduce().**
4. **Write a function to find the product of all numbers in an array using a loop.**
5. **Write a function to count the occurrences of a given number in an array.**
6. **Write a function to remove duplicates from an array.**
7. **Write a function to check if an array is sorted in ascending order.**
8. **Write a function to merge two sorted arrays.**
9. **Write a function to check if a number is an Armstrong number.**
10. **Write a function to check if a number is a perfect number.**

## **🟠 Level 3: Advanced Functions (Recursion & Complex Operations)**

These assignments use recursion, mathematical operations, and multiple function calls.

1. **Write a function to find the power of a number using recursion.**
2. **Write a function to print all natural numbers up to n using recursion.**
3. **Write a function to print all even/odd numbers in a given range using recursion.**
4. **Write a function to find the sum of all numbers up to n using recursion.**
5. **Write a function to find the sum of all even/odd numbers in a given range using recursion.**
6. **Write a function to reverse a number using recursion.**
7. **Write a function to check if a number is a palindrome using recursion.**
8. **Write a function to find the sum of digits of a number using recursion.**
9. **Write a function to find the factorial of a number using recursion.**
10. **Write a function to generate the nth Fibonacci number using recursion.**

## **🔴 Level 4: Expert Functions (Algorithms & Complex Logic)**

These assignments involve mathematical logic, recursion, and array manipulations.

1. **Write a function to find the GCD (HCF) of two numbers using recursion.**
2. **Write a function to find the LCM of two numbers using recursion.**
3. **Write a function to print all prime numbers between two given numbers.**
4. **Write a function to print all Armstrong numbers between two numbers.**
5. **Write a function to print all perfect numbers between two numbers.**
6. **Write a function to display all array elements using recursion.**
7. **Write a function to find the sum of elements in an array using recursion.**
8. **Write a function to find the maximum and minimum elements in an array using recursion.**
9. **Write a function to count how many times a given character appears in a string.**
10. **Write a function to reverse a string using recursion.**

## **🟣 Level 5: Master Level (Using Higher-Order Functions & Objects)**

These assignments focus on advanced JavaScript concepts like **higher-order functions**, **map/filter/reduce**, and **object manipulations**.

1. **Use .reduce() to find the maximum value in an array.**
2. **Use .reduce() to find the minimum value in an array.**
3. **Use .reduce() to calculate the total sum of an array.**
4. **Use .map() to create a new array of squared numbers.**
5. **Use .filter() to return only even numbers from an array.**
6. **Use .map() to capitalize the first letter of each word in an array of strings.**
7. **Create a function that implements all array-based assignments using array methods.**
8. **Create a function that implements all object-based assignments using object methods.**
9. **Create a function that implements all string-based assignments using string methods.**
10. **Implement a function that finds the longest word in a given sentence.**

## **🚀 Bonus Challenge: Ultimate Problem**

🎯 **Write a function that takes a sentence as input and returns an object containing:**

* The total word count.
* The longest word.
* The shortest word.
* The average word length.