**SET - 1**

1. Write a program that takes an array of elements and counts the occurrences of each element using a Map.

Sample Input: const arr = [1, 2, 3, 2, 1, 4, 5, 4];

Sample Output: Map(5) {

1 => 2,

2 => 2,

3 => 1,

4 => 2,

5 => 1

}

2. Write a program that takes an array of integers and a target sum. Check if there exists a subarray with the given sum using a Set.

Sample Input: const arr = [1, 4, 20, 3, 10, 5];

const targetSum = 33;

Sample Output: true

3. Write a program that takes an array of strings and groups anagrams together using a Map.

Sample Input: const arr = ["eat", "tea", "tan", "ate", "nat", "bat"];

const chunkSize = 3;

Sample Output: Map(3) {

"aet" => ["eat", "tea", "ate"],

"ant" => ["tan", "nat"],

"abt" => ["bat"]

}

4. Write a program that takes an array of strings and reverses each string in the array using the array methods.

Sample Input: const arr = ["apple", "banana", "orange"];

Sample Output: ["elppa", "ananab", "egnaro"]

5. Write a program that takes an array of numbers and filters out the perfect square numbers using the array methods.

Sample Input const arr = [1, 2, 4, 7, 9, 16, 25];

Sample Output: [1, 4, 9, 16, 25]

6. Write a program that takes two objects and merges them into a single object

Sample Input: const obj1 = { name: "John", age: 30 };

const obj2 = { city: "New York", occupation: "Engineer" };

Sample Output: {

name: "John",

age: 30,

city: "New York",

occupation: "Engineer"

}

7 Write a program that takes an array of objects and converts it into a single object using **Object.assign()** and **Object.entries()**.

Sample Input: const arr = [

{ key: "name", value: "John" },

{ key: "age", value: 30 },

{ key: "city", value: "New York" }

];

Sample Output: { name: "John", age: 30, city: "New York" }

8. Write a program that takes a function with an array parameter and destructure the array inside the function.

Sample Input:

function displayArray([first, second, ...rest]) {

console.log(`First Element: ${first}`);

console.log(`Second Element: ${second}`);

console.log(`Rest Elements: ${rest}`);

}

const arr = [1, 2, 3, 4, 5];

Sample Output:

First Element: 1

Second Element: 2

Rest Elements: 3,4,5

9. Write a program that takes a nested object containing numeric values and calculates the sum of all values.

Sample Input:

const nestedObj = {

a: 1,

b: 2,

c: { d: 3, e: { f: 4 } },

};

Sample Output: Sum: 10

10. Write a program that takes an object and counts the occurrences of each property

Sample Input: const obj = { name: "John", age: 30, city: "New York", profession: "Engineer" };

Sample Output: {

name: 1,

age: 1,

city: 1,

profession: 1,

}

**SET - 2**

11. Write a program that takes two arrays and finds their intersection using Sets.

Sample Input: const arr1 = [1, 2, 3, 4, 5];

const arr2 = [3, 4, 5, 6, 7];

Sample Output: [3, 4, 5]

12 Write a program that takes an array containing nested arrays and flattens it into a single array using the array methods.

Sample Input: const arr = [1, [2, 3], [4, 5, [6, 7]]];

Sample Output: [1, 2, 3, 4, 5, 6, 7]

13 Write a program that takes an array containing both truthy and falsy values and removes the falsy values using the array methods.

Sample Input: const arr = [0, "hello", "", 42, false, "world", null, true, undefined];

Sample Output: ["hello", 42, "world", true]

14. Write a program that takes an array of numbers and returns an array with only the unique elements without using the array methods.

Sample Input: const arr = [1, 2, 2, 3, 4, 4, 5];

Sample Output: [1, 2, 3, 4, 5]

15. Write a program that takes an array of numbers and filters out the prime numbers using the array methods.

Sample Input: const arr = [2, 3, 4, 5, 6, 7, 8, 9, 10];

Sample Output: [2, 3, 5, 7]

16 Write a program that takes an object and checks if a specific property exists

Sample Input: const obj = { name: "John", age: 30, city: "New York" };

const propertyName = "age";

Sample Output: Property "age" exists: true

17. Write a program that takes an object containing some properties with undefined values and removes those properties

Sample Input: const obj = { name: "John", age: undefined, city: "New York" };

Sample Output: { name: "John", city: "New York" }

18. Write a program that takes an array containing nested arrays and destructures specific elements from the nested arrays.

Sample Input const arr = [[1, 2], [3, 4, 5], [6, 7, 8, 9]];

Sample Output: First Element of Nested Array: 1

Second Element of Nested Array: 4

Third Element of Nested Array:

19. Write a program that takes an object and extracts properties with renamed variables using destructuring assignment.

Sample Input: const user = { name: "John", age: 30 };

Sample Output: User Name: John

User Age: 30

20. Write a program that takes a function with an object parameter and provides default values for missing properties using destructuring assignment.

Sample Input:

function displayInfo({ name = "Anonymous", age = 25 }) {

console.log(`Name: ${name}`);

console.log(`Age: ${age}`);

}

const obj = { name: "John" };

Sample Output:

Name: John

Age: 25