// Task 1: Using concat()

// Objective: Merge two arrays into one.

const array1 = [1, 2, 3];

const array2 = [4, 5, 6]; // [1, 2, 3, 4, 5, 6]

const arr3=array1.concat(array2)

console.log(arr3);

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

// Task 2: Using flat()

// Objective: Flatten a nested array up to a specific depth.

const nestedArray = [1, [2, [3, [4]]]]; // [1, 2, 3, [4]]

const arr=nestedArray.flat(2)

console.log(arr);

Output:- [ 1, 2, 3, [ 4 ] ]

const array = [1, 2, 3, 4, 5]; // [1, 2, 'a', 'b', 5]

array.splice(2,2,"a","b");

console.log(array); // [3, 4]

Output:- [ 1, 2, 'a', 'b', 5 ]

// Task 6: Using copyWithin()

// Objective: Copy part of an array to another location in the same array.

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

array.copyWithin(0, 3); // [4, 5, 3, 4, 5]

console.log(array);

Output:- [4, 5, 3, 4, 5]

// Task 7: Using indexOf()

// Objective: Find the first occurrence of a value in an array.

const array = [1, 2, 3, 2, 1];

const index = array.indexOf(2); // 1

console.log(index);

Output:- 1

// Task 8: Using lastIndexOf()

// Objective: Find the last occurrence of a value in an array.

const array = [1, 2, 3, 2, 1];

const lastIndex = array.lastIndexOf(2);

console.log(lastIndex); // 3

Output:- 3

// Task 9: Using includes()

// Objective: Check if an array contains a certain value.

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

const hasValue = array.includes(3); // true

console.log(hasValue);

Output:-true

// Task 10: Combining Methods

// Objective: Use multiple array methods in a single task.

const array1 = [1, 2, 3];

const array2 = [4, 5, 6];

const mergedArray = array1.concat(array2).flat();

console.log(mergedArray);

Output:- [ 1, 2, 3, 4, 5, 6 ]

const array1 = [1, 2, 3];

const array2 = [4, 5, 6];

const mergedArray = array1.concat(array2).flat();

// console.log(mergedArray); // [1, 2, 3, 4,

const splicedArray = mergedArray.toSpliced(2, 1, 'a');

console.log(splicedArray);

output:- [ 1, 2, 'a', 4, 5, 6 ]

const array1 = [1, 2, 3];

const array2 = [4, 5, 6];

const mergedArray = array1.concat(array2).flat();

// console.log(mergedArray); // [1, 2, 3, 4,

const splicedArray = mergedArray.toSpliced(2, 1, 'a');

console.log(splicedArray);

const finalArray = splicedArray.slice(1, 5);

console.log(finalArray);

console.log(finalArray.includes('a')); // true

console.log(finalArray.indexOf(5)); // 3

Output:-

[ 1, 2, 'a', 4, 5, 6 ] [ 2, 'a', 4, 5 ]

true

3