Question 1: Reverse an Array

Problem: Write a function that takes an array and returns a new array with the elements in reverse order.

Input: [1, 2, 3, 4, 5]

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

Use Case: This function can be used in a web application where user reviews need to be displayed in reverse chronological order.

Question 2: Flatten an Array

Problem: Write a function that takes a nested array and flattens it to a single-level array.

Input: [1, [2, 3], [4, [5]]]

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

Use Case: Useful for aggregating user-selected items from multiple categories into a single list for checkout.

Question 3: Check for Duplicates

Problem: Write a function that checks if an array contains duplicates.

Input: [1, 2, 3, 4, 5, 1]

Output: true

Input: [1, 2, 3, 4, 5]

Output: false

Use Case: Can be used to validate user inputs in forms, such as ensuring usernames are unique during registration.

Question 4: Merge Two Objects

Problem: Write a function that merges two objects into one.

Input: { a: 1, b: 2 }, { b: 2, c: 4 }

Output: { a: 1, b: 2, c: 4 }

Use Case: This can be used in a web application to combine user profile settings from different sources.

Question 5: Find the Maximum Number in an Array

Problem: Write a function that finds the maximum number in an array.

Input: [1, 3, 2, 8, 5]

Output: 8

Use Case: This function can help in analytics dashboards to find the highest sales figure or user activity.

Question 6: Group Array of Objects by Property

Problem: Write a function that groups an array of objects by a specific property.

Input: [{ id: 1, category: 'fruit' }, { id: 2, category: 'vegetable' }, { id: 3, category: 'fruit' }]

Output: {

   fruit: [{ id: 1, category: 'fruit' }, { id: 3, category: 'fruit' }],

   vegetable: [{ id: 2, category: 'vegetable' }]

}

Use Case: Useful for organizing products by category in an e-commerce application.

Question 7: Find the Intersection of Two Arrays

Problem: Write a function that returns the intersection of two arrays.

Input: [1, 2, 3], [2, 3, 4]

Output: [2, 3]

Use Case: This can be used in social media applications to find mutual friends between users.

Question 8: Calculate the Sum of Array Elements

Problem: Write a function that calculates the sum of all numbers in an array.

Input: [1, 2, 3, 4, 5]

Output: 15

Use Case: Useful in financial applications to calculate the total expenses or revenue.

Question 9: Remove Falsy Values from an Array

Problem: Write a function that removes all falsy values from an array.

Input: [0, 1, false, 2, '', 3]

Output: [1, 2, 3]

Use Case: This function can be used to clean up user inputs or configuration arrays.

Question 10: Calculate Average of an Array

Problem: Write a function that calculates the average of all numbers in an array.

Input: [1, 2, 3, 4, 5]

Output: 3

Use Case: This function is useful in educational applications where you need to compute the average score of students from an array of their grades.