**📌 Important DSA Array Questions for Interviews**

**1. Basics & Traversal**

* Find the maximum and minimum element in an array
* Reverse an array (in-place, without extra space)
* Find the largest three elements in an array
* Rotate an array (left rotation / right rotation, k times)

**2. Searching & Sorting**

* Binary Search (iterative & recursive)
* Find first and last occurrence of an element in a sorted array
* Search in rotated sorted array
* Find the peak element in an array
* Merge two sorted arrays
* Find the intersection & union of two sorted arrays
* Sort an array of 0s, 1s, and 2s (Dutch National Flag problem)

**3. Subarray Problems**

* Maximum subarray sum (**Kadane’s Algorithm**)
* Maximum product subarray
* Longest subarray with given sum (positive & negative numbers)
* Subarray sum divisible by k
* Find subarray with 0 sum
* Count subarrays with sum equal to k

**4. Prefix Sum & Sliding Window**

* Find equilibrium index (where left sum = right sum)
* Find the majority element (> n/2 times)
* Maximum sum subarray of size k (sliding window)
* Minimum size subarray with sum ≥ k
* Trapping Rain Water problem
* Container With Most Water

**5. Searching / Hashing based**

* Two Sum problem (return indices of elements)
* Three Sum (find triplets with sum = 0)
* Four Sum
* Find all pairs with a given sum
* Longest consecutive subsequence

**6. Rearrangement & Special Problems**

* Move all negative numbers to beginning and positive to end
* Rearrange array alternatively (positive, negative)
* Rearrange array in increasing-decreasing order
* Find missing number in an array (1 to n)
* Find duplicate in an array (Floyd’s cycle detection / Hashing)
* Find all duplicates in an array
* Cyclically rotate an array by one

**7. Advanced & Hard**

* Maximum circular subarray sum
* Median of two sorted arrays (Binary Search approach)
* Find element that appears once when others appear thrice (Bit Manipulation)
* Find pair with given difference
* Count inversions in an array (using Merge Sort)
* Smallest subarray with sum greater than a given value
* Maximum profit in stock buy and sell (1 transaction, 2 transactions, k transactions)

✅ **Tip for Interviews:**

* Focus on **edge cases** (empty array, single element, duplicates, negatives).
* Be comfortable with **time complexity** (O(n), O(log n), O(n²)).
* Practice with **LeetCode / GFG / InterviewBit**.