Here are **30 one-line problem statements on Arrays** to help you practice:

1. Find the largest element in an array.
2. Find the second smallest element in an array.
3. Check if the array is sorted.
4. Reverse the array in-place.
5. Rotate the array by K positions.
6. Find the missing number in a sequence from 1 to N.
7. Find the duplicate number in an array.
8. Remove duplicates from a sorted array.
9. Move all zeros to the end of the array.
10. Count the number of even and odd elements in the array.
11. Find the sum of all elements in the array.
12. Find the maximum sum subarray (Kadane's Algorithm).
13. Merge two sorted arrays.
14. Find the intersection of two arrays.
15. Find the union of two arrays.
16. Replace every element with the next greatest element.
17. Count the frequency of each element.
18. Find the longest consecutive subsequence.
19. Check if two arrays are equal (regardless of order).
20. Find all pairs with a given sum.
21. Segregate 0s and 1s in a binary array.
22. Find the equilibrium index of the array.
23. Find the leader elements in the array.
24. Find the majority element in the array.
25. Find the first repeating element.
26. Find the minimum product of any two elements.
27. Check if the array can be partitioned into two subsets with equal sum.
28. Rotate a matrix by 90 degrees (treat matrix as array of arrays).
29. Find the maximum difference between two elements with larger after smaller.
30. Count inversions in an array.

Let me know if you want solutions in Java, C++, or Python!

Ask ChatGPT

You said:

google interview level

ChatGPT said:

Here are **30 Google interview-level array problem statements** (one-liners) that test core data structures, algorithms, and optimization skills:

◆ Easy to Medium Level

1. Find the single non-duplicate element in a sorted array using O(log n) time.

2. Rotate an array to the right by `k` steps using O(1) space.
3. Merge overlapping intervals in a list of intervals.
4. Move all negative numbers to the beginning and positive to the end with O(1) space.
5. Remove duplicates from a sorted array in-place and return the new length.
6. Return indices of two numbers that add up to a target (Two Sum).
7. Find the maximum product subarray.
8. Given an array of 0s, 1s, and 2s, sort it in one pass (Dutch National Flag).
9. Check if the array contains a subarray with sum = 0.
10. Given a mountain array, find the peak index in O(log n) time.

◆ Medium to Hard Level

11. Find the longest subarray with a given sum using a hash map.
12. Find the smallest subarray with sum $\geq K$ (Sliding Window).
13. Count the number of subarrays that sum to a given value.
14. Given a binary array, find the maximum length of a contiguous subarray with equal 0s and 1s.
15. Find the median of two sorted arrays in O(log(min(n, m))) time.
16. Find the minimum window in the array which if sorted, makes the whole array sorted.
17. Given an array, find the maximum circular subarray sum.
18. Find all increasing subsequences of an array.
19. Given k sorted arrays, merge them into one sorted array.
20. Find all elements that appear more than $\lfloor n/3 \rfloor$ times.

◆ Advanced Level

21. Count the number of range sums that lie in a given interval.
22. Count the number of inversions in an array (using Merge Sort).
23. Given an array, partition it into K subsets with equal sum.
24. Find the maximum subarray XOR in an array.
25. Construct the array using XOR queries and prefix properties.
26. Given an array, find the maximum length of a subarray with at most two distinct elements.
27. Find the maximum number of chunks to make the array sorted.
28. Find the number of subarrays with product less than K.
29. Count the number of good triplets in the array with given conditions.
30. Given an array of strings, group anagrams together (as array of char arrays).

Let me know if you want:

- Solutions in **Java / C++ / Python**
- Difficulty-wise filtering
- Topic-wise grouping (sliding window, binary search, etc.)

- Google-style explanation and approach