1. Find the maximum element in an array.
2. Find the minimum element in an array.
3. Reverse an array.
4. Find the average of elements in an array.
5. Find the median of elements in an array.
6. Sort an array using bubble sort.
7. Sort an array using insertion sort.
8. Sort an array using selection sort.
9. Sort an array using merge sort.
10. Sort an array using quick sort.
11. Remove duplicates from a sorted array.
12. Remove duplicates from an unsorted array.
13. Find the second largest element in an array.
14. Find the second smallest element in an array.
15. Check if an array is sorted.
16. Rotate an array to the right by k positions.
17. Rotate an array to the left by k positions.
18. Find the sum of all elements in an array.
19. Find the product of all elements in an array.
20. Count the number of occurrences of a given element in an array.
21. Find the maximum difference between two elements in an array.
22. Find the pair of elements with the maximum sum in an array.
23. Find the pair of elements with the minimum sum in an array.
24. Find the intersection of two arrays.
25. Find the union of two arrays.
26. Check if two arrays are equal.
27. Merge two sorted arrays.
28. Find the longest increasing subsequence in an array.
29. Find the longest decreasing subsequence in an array.
30. Check if an array contains duplicates.
31. Find the majority element in an array.
32. Move all zeros to the end of an array.
33. Find the common elements between two arrays.
34. Rotate a matrix 90 degrees clockwise.
35. Find the transpose of a matrix.
36. Check if a matrix is symmetric.
37. Calculate the trace of a matrix.
38. Flatten a 2D matrix into a 1D array.
39. Convert a 1D array into a 2D matrix.
40. Find the sum of elements along each row of a matrix.
41. Find the sum of elements along each column of a matrix.
42. Check if a matrix is an identity matrix.
43. Find the determinant of a 2x2 matrix.
44. Find the determinant of a 3x3 matrix.
45. Perform matrix multiplication.
46. Perform scalar multiplication on a matrix.
47. Perform matrix addition.
48. Perform matrix subtraction.
49. Find the maximum sum of any contiguous subarray (Kadane's algorithm).
50. Find the minimum sum of any contiguous subarray.
51. Count the number of inversions in an array.
52. Find the k-th smallest element in an array.
53. Find the k-th largest element in an array.
54. Find the smallest subarray with a sum greater than a given value.
55. Find the largest subarray with a sum less than a given value.
56. Find the longest contiguous subarray with the same value.
57. Find the maximum product of any contiguous subarray.
58. Find the maximum sum subarray with exactly k elements.
59. Find the first repeating element in an array.
60. Find the last repeating element in an array.
61. Rearrange an array such that all even numbers come before odd numbers.
62. Rearrange an array such that all odd numbers come before even numbers.
63. Find the maximum value of an array after rotating it by k positions.
64. Perform binary search on a sorted array.
65. Perform linear search on an array.
66. Find the minimum value in a rotating sorted array.
67. Find the maximum value in a rotating sorted array.
68. Perform a cyclic rotation on an array of size n by k positions.
69. Count the frequency of each element in an array.
70. Find the smallest positive integer missing from an array.
71. Find the longest subarray with a sum equal to a given value.
72. Find the maximum sum of non-adjacent elements in an array.
73. Find the length of the longest consecutive sequence in an array.
74. Find the number of subarrays with a sum equal to a given value.
75. Find all pairs with a given sum in an array.
76. Find all triplets with a given sum in an array.
77. Find the maximum sum of subarrays using dynamic programming.
78. Find the minimum sum of subarrays using dynamic programming.
79. Find the maximum product of two distinct elements in an array.
80. Find the maximum product of three distinct elements in an array.
81. Implement a priority queue using arrays.
82. Find the common elements in more than two arrays.
83. Merge multiple sorted arrays into a single sorted array.
84. Find the longest prefix common to all strings in an array.
85. Find the longest suffix common to all strings in an array.
86. Partition an array into two subsets such that their sums are equal.
87. Partition an array into k subsets with equal sum.
88. Find the maximum length of a substring with exactly k repeating characters.
89. Find the minimum length of a substring with exactly k repeating characters.
90. Find the longest substring with no repeating characters using sliding window technique.
91. Find the smallest substring with no repeating characters using sliding window technique.
92. Find the maximum number of distinct characters in a sliding window of size k.
93. Find the minimum number of distinct characters in a sliding window of size k.
94. Calculate the product of all elements in a sliding window of size k.
95. Calculate the average of all elements in a sliding window of size k.
96. Find the maximum sum of any contiguous subarray using divide and conquer technique.
97. Find the minimum sum of any contiguous subarray using divide and conquer technique.
98. Find all subarrays with a sum equal to zero.
99. Find the maximum sum of non-overlapping subarrays.
100. Find the smallest subarray with a sum greater than or equal to a given value.
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