Java Arrays and Strings Practice Questions

Practice these questions for better understanding of these concepts.

Java Arrays - Easy (20 Problems)

1. Find the maximum element in an array.
2. Find the minimum element in an array.
3. Calculate the sum of all elements in an array.
4. Calculate the average of all elements in an array.
5. Reverse an array in-place.
6. Count even and odd numbers in an array.
7. Search for a given element in an array (linear search).
8. Check if an array is sorted in ascending order.
9. Copy all elements from one array to another.
10. Count the frequency of each element in an array.
11. Print elements at even and odd positions.
12. Find the index of a given element.
13. Find the sum of even elements in an array.
14. Find the sum of odd elements in an array.
15. Replace all negative numbers with zero.
16. Swap the first and last elements of an array.
17. Find the product of all elements in an array.
18. Find the difference between the largest and smallest element.
19. Print the array in reverse order without modifying it.
20. Merge two arrays without sorting.

Java Arrays - Intermediate (20 Problems)

1. Find the second largest and second smallest elements in an array.
2. Remove duplicates from an array.
3. Rotate an array k times to the right.
4. Rotate an array k times to the left.
5. Find the missing number in an array from 1 to N.
6. Merge two sorted arrays into a single sorted array.
7. Find the intersection of two arrays.
8. Find the union of two arrays.
9. Move all zeroes to the end of the array.
10. Find the pair of elements that sum up to a given target (Two Sum problem).
11. Find the majority element (element occurring more than N/2 times).
12. Find the subarray with the maximum sum (Kadane's algorithm).
13. Find the subarray with the minimum sum.
14. Find the longest increasing subarray.
15. Count the number of pairs with a given difference.
16. Sort the array without using built-in sort functions.
17. Implement binary search on a sorted array.
18. Find the frequency of each number without using extra space.
19. Rearrange array elements so that positives and negatives alternate.
20. Find all triplets in an array that sum to zero.

Java Strings - Easy (20 Problems)

1. Count the number of vowels and consonants in a string.
2. Reverse a string.
3. Check if a string is a palindrome.
4. Count the number of words in a string.
5. Convert a string to uppercase and lowercase.
6. Remove all whitespace from a string.
7. Find the length of a string without using .length().
8. Replace all occurrences of a character in a string.
9. Count the frequency of each character in a string.
10. Compare two strings without using equals().
11. Check if a string starts with a given prefix.
12. Check if a string ends with a given suffix.
13. Extract a substring from a given string.
14. Remove all digits from a string.
15. Remove all special characters from a string.
16. Count the number of uppercase letters in a string.
17. Count the number of lowercase letters in a string.
18. Find the first occurrence of a character in a string.
19. Find the last occurrence of a character in a string.
20. Swap the case of each letter in a string.

Java Strings - Intermediate (20 Problems)

1. Remove duplicates from a string.
2. Find the longest word in a sentence.
3. Check if two strings are anagrams.
4. Find the first non-repeating character in a string.
5. Count the number of occurrences of a substring.
6. Reverse each word in a sentence without changing word order.
7. Check if a string contains only digits.
8. Find the longest palindrome substring in a string.
9. Find all permutations of a string.
10. Check if a string is a rotation of another string.
11. Find the most frequent word in a sentence.
12. Implement a function to compress a string (e.g., aabccc $\rightarrow$ a2b1c3).
13. Check if a string is isogram (no repeating letters).
14. Remove all adjacent duplicate characters from a string.
15. Count the number of special characters in a string.
16. Replace each character in a string with the next character in ASCII.
17. Convert a string into a zigzag pattern and read row by row.
18. Implement a basic Caesar cipher for encryption.
19. Find the longest common prefix among an array of strings.
20. Split a string into equal parts of given length.