

## JAVA CODING PROGRAMS

### Basic Java Programs

1. Positive or Negative number
2. Even or Odd number
3. Sum of First N Natural numbers
4. Sum of N natural numbers:
5. Sum of numbers in a given range
6. Greatest of two numbers
7. Greatest of the Three numbers
8. Leap year or not
9. Prime number
10. Prime number within a given range
11. Sum of digits of a number
12. Reverse of a number
13. Palindrome number
14. Armstrong number
15. Armstrong number in a given range
16. Fibonacci Series upto nth term
17. Find the Nth Term of the Fibonacci Series
18. Factorial of a number
19. Power of a number
20. Factor of a number
21. Finding Prime Factors of a number
22. Strong number
23. Perfect number
24. Perfect Square
25. Automorphic number
26. Harshad number
27. Abundant number
28. Friendly pair

### Working with Numbers

29. Highest Common Factor(HCF): C | C++ | Java | Python
30. Lowest Common Multiple (LCM)
31. Greatest Common Divisor
32. Binary to Decimal to conversion
33. Octal to Decimal conversion
34. Hexadecimal to Decimal conversion
35. Decimal to Binary conversion
36. Decimal to Octal Conversion
37. Decimal to Hexadecimal Conversion
38. Binary to Octal conversion
39. Octal to Binary conversion
40. Quadrants in which a given coordinate lies
41. Permutations in which n people can occupy r seats in a classroom
42. Maximum number of handshakes
43. Addition of two fractions
44. Replace all 0's with 1 in a given integer

## JAVA CODING PROGRAMS

45. Can a number be expressed as a sum of two prime numbers
46. Count possible decoding of a given digit sequence
47. Calculate the area of a circle
48. Find the prime numbers between 1 to 100
49. Calculate the number of digits in an integer
50. Convert digit/number to words
51. Counting number of days in a given month of a year
52. Finding Number of times x digit occurs in a given input
53. Finding number of integers which has exactly x divisors
54. Finding Roots of a quadratic equation

### Codes for Recursion

55. Power of a Number
56. Prime Number
57. Largest element in an array
58. Smallest element in an array
59. Reversing a Number
60. HCF of two numbers
61. LCM of two numbers
62. Program to calculate length of the string using recursion-
63. Print All Permutations of a String-
64. Given an integer N the task is to print the F(N)th term.-
65. Given a list arr of N integers, print sums of all subsets in it-
66. Last non-zero digit in factorial-
67. Given a positive integer N, return the Nth row of pascal's triangle
68. Given an integer N representing the number of pairs of parentheses, the task is to generate all combinations of well-formed(balanced) parentheses
69. Find the Factorial of a number using recursion
70. Find all possible Palindromic partitions of the given String
71. Find all the N bit binary numbers having more than or equal 1's than 0's
72. Given a set of positive integers, find all its subsets
73. Given a string s, remove all its adjacent duplicate characters recursively

### Array

74. Find Largest element in an array
75. Find Smallest Element in an Array
76. Find the Smallest and largest element in an array
77. Find Second Smallest Element in an Array
78. Calculate the sum of elements in an array
79. Reverse an Array
80. Sort first half in ascending order and second half in descending
81. Sort the elements of an array
82. Finding the frequency of elements in an array
83. Sorting elements of an array by frequency
84. Finding the Longest Palindrome in an Array : C | C++ | Java | Python
85. Counting Distinct Elements in an Array : C | C++ | Java | Python
86. Finding Repeating elements in an Array
87. Finding Non Repeating elements in an Array

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88. Removing Duplicate elements from an array
89. Finding Minimum scalar product of two vectors
90. Finding Maximum scalar product of two vectors in an array
91. Counting the number of even and odd elements in an array
92. Find all Symmetric pairs in an array
93. Find maximum product sub-array in a given array
94. Finding Arrays are disjoint or not
95. Determine Array is a subset of another array or not
96. Determine can all numbers of an array be made equal
97. Finding Minimum sum of absolute difference of given array
98. Sort an array according to the order defined by another array
99. Replace each element of the array by its rank in the array
100. Finding equilibrium index of an array
101. Rotation of elements of array- left and right
102. Block swap algorithm for array rotation
103. Juggling algorithm for array rotation
104. Finding Circular rotation of an array by K positions

### Operations on Strings

105. Check whether a character is a vowel or consonant
106. Check whether a character is a alphabet or not
107. Find the ASCII value of a character
108. Length of the string without using strlen() function
109. Toggle each character in a string
110. Count the number of vowels
111. Remove the vowels from a String
112. Check if the given string is Palindrome or not
113. Print the given string in reverse order
114. Remove all characters from string except alphabets
115. Remove spaces from a string
116. Remove brackets from an algebraic expression
117. Count the sum of numbers in a string
118. Capitalize the first and last character of each word of a string
119. Calculate frequency of characters in a string
120. Find non-repeating characters in a string
121. Check if two strings are Anagram or not
122. Replace a sub-string in a string
123. Replacing a particular word with another word in a string
124. Count common sub-sequence in two strings
125. Check if two strings match where one string contains wildcard characters
126. Print all permutations of a given string in lexicographically sorted order

### Advanced Codes related to Arrays

127. Given an array which consists of only 0, 1 and 2. Sort the array without using any algorithm
128. Find the "Kth" max and min element of an array
129. Move all the negative elements to one side of the array
130. Find the Union and Intersection of the two sorted arrays.

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- 131. Find Largest sum contiguous Subarray
- 132. Minimize the maximum difference between heights
- 133. Minimum no. of Jumps to reach the end of an array
- 134. Find duplicate in an array of N+1 Integers
- 135. Merge 2 sorted arrays without using extra space.
- 136. Kadane's Algorithm
- 137. Merge Intervals
- 138. Count Inversion
- 139. Best time to buy and Sell stock
- 140. Find all pairs on integer array whose sum is equal to given number
- 141. Find if there is any subarray with sum equal to 0
- 142. Find factorial of a Large Number
- 143. Find common elements In 3 sorted arrays
- 144. Rearrange the array in alternating positive and negative items with O(1) extra space
- 145. Given an array of size n and a number k, find all elements that appear more than " $n/k$ " times.
- 146. Maximum profit by buying and selling a share atmost twice
- 147. Next Permutation
- 148. Find longest consecutive subsequence
- 149. Trapping Rain water problem
- 150. Chocolate Distribution problem
- 151. Smallest Subarray with sum greater than a given value
- 152. Three way partitioning of an array around a given value
- 153. Minimum no. of operations required to make an array palindrome
- 154. Median of 2 sorted arrays of equal size
- 155. Median of 2 sorted arrays of different size

### Codes related to Matrix

- 156. Spiral traversal on a Matrix
- 157. Search an element in a matrix
- 158. Find median in a row wise sorted matrix
- 159. Find row with maximum no. of 1's
- 160. Print elements in sorted order using row-column wise sorted matrix
- 161. Find a specific pair in matrix
- 162. Rotate matrix by 90 degrees
- 163. Kth smallest element in a row-column wise sorted matrix
- 164. Common elements in all rows of a given matrix