

## **01\_Basics**

1. Print 'Hello, World!'
2. Swap two numbers
3. Check if a number is even or odd
4. Find the factorial of a number
5. Generate Fibonacci series
6. Check for a prime number
7. Reverse a number
8. Check for palindrome number
9. Calculate the sum of digits
13. Find ASCII value of a character
14. Count digits in a number
17. Check for leap year
18. Print multiplication table
20. Sum of first N natural numbers

## **02\_Math\_Problems**

10. Find GCD and LCM
11. Convert binary to decimal and vice versa
12. Convert temperature units (C <-> F)
15. Calculate power using loops
16. Check for Armstrong number
19. Find largest and smallest number among three

## **03\_Arrays**

21. Find the largest/smallest element
22. Reverse an array
23. Check if array is sorted

24. Remove duplicates
25. Rotate an array
26. Count even and odd elements
27. Find second largest element
28. Merge two sorted arrays
29. Rearrange array (negative first)
30. Frequency of each element
31. Find missing number in 1 to N
32. Subarray with given sum
33. Move zeroes to end
34. Kadane's Algorithm (max sum subarray)
35. Left and right rotations

#### **04\_Strings**

36. Reverse a string
37. Check for palindrome
38. Count vowels and consonants
39. Remove spaces from string
40. Convert case (upper <-> lower)
41. Find duplicate characters
42. Check anagram strings
43. Count words in a string
44. Longest word in sentence
45. Remove all duplicates
46. First non-repeating character
47. String compression
48. Print all substrings

49. Check for rotation

50. Replace spaces with %20

## **05\_LinkedLists**

61. Create and display a linked list

62. Insert at beginning/end

63. Delete node

64. Reverse a linked list

65. Detect loop

66. Find middle element

67. Merge two sorted linked lists

68. Remove duplicates

69. Check for palindrome list

70. Intersection point of two linked lists

## **06\_Stacks\_Queues**

71. Implement stack using array

72. Implement queue using array

73. Stack using two queues

74. Queue using two stacks

75. Evaluate postfix expression

76. Valid parentheses

77. Next greater element

78. Implement Min Stack

79. Circular queue

80. LRU cache concept

## **07\_Recursion\_Backtracking**

81. Factorial using recursion

- 82. Fibonacci using recursion
- 83. Tower of Hanoi
- 84. Print all permutations of string
- 85. N-Queens problem
- 86. Rat in a maze
- 87. Sudoku solver
- 88. Subset sum problem
- 89. Generate all binary strings
- 90. Print power set

## **08\_Sorting\_Searching**

- 51. Linear search
- 52. Binary search
- 53. Bubble sort
- 54. Selection sort
- 55. Insertion sort
- 56. Merge sort
- 57. Quick sort
- 58. Count sort
- 59. Find Kth largest element
- 60. Search in rotated sorted array

## **11\_DynamicProgramming**

- 34. Kadane's Algorithm
- 85. N-Queens problem
- 86. Rat in a maze
- 87. Sudoku solver
- 88. Subset sum problem

90. Print power set

## **12\_BitManipulation**

91. Check if number is power of 2

92. Count number of set bits

93. XOR of all elements

94. Find unique number in array

95. Add 1 to number using bitwise

96. Check for palindrome using bits

## **13\_Extras**

97. Sieve of Eratosthenes

98. Fast exponentiation

99. GCD using Euclidean algorithm

100. Decimal to binary using recursion