

Practice Set I

(Practice the program using C, Java, Python)

A. Problems on Arrays

1. Find the smallest number in an array
2. Find the largest number in an array
3. Second Smallest and Second Largest element in an array
4. Reverse a given array
5. Count frequency of each element in an array
6. Rearrange array in increasing-decreasing order
7. Calculate sum of the elements of the array
8. Rotate array by K elements - Block Swap Algorithm
9. Average of all elements in an array
10. Find the median of the given array
11. Remove duplicates from a sorted array
12. Remove duplicates from unsorted array
13. Adding Element in an array
14. Find all repeating elements in an array
15. Find all non-repeating elements in an array
16. Find all symmetric pairs in array
17. Maximum product subarray in an array
18. Replace each element of the array by its rank in the array
19. Sorting elements of an array by frequency
20. Rotation of elements of array- left and right
21. Finding equilibrium index of an array
22. Finding Circular rotation of an array by K positions
23. Sort an array according to the order defined by another array
24. Search an element in an array
25. Check if Array is a subset of another array or not

B. Problems on Numbers

1. Check if a number is palindrome or not
2. Find all Palindrome numbers in a given range
3. Check if a number is prime or not
4. Prime numbers in a given range
5. Check if a number is armstrong number or not
6. Check if a number is perfect number
7. Even or Odd
8. Check whether a given number is positive or negative

9. Sum of first N natural numbers
10. Find Sum of AP Series
11. Program to find sum of GP Series
12. Greatest of two numbers
13. Greatest of three numbers
14. Leap Year or not
15. Reverse digits of a number
16. Maximum and Minimum digit in a number
17. Print Fibonacci upto Nth Term
18. Factorial of a number
19. Power of a number
20. Factors of a given number
21. Print all prime factors of the given number
22. Check if a number is a strong number or not
23. Check if a Number is Automorphic
24. GCD of two numbers
25. LCM of two numbers
26. Check if a number is Harshad number
27. Check if the number is abundant number or not
28. Sum of digits of a number
29. Sum of numbers in the given range
30. Permutations in which N people can occupy R seats in a classroom
31. Program to add two fractions
32. Replace all 0s with 1s in a given integer
33. Can a number be expressed as a sum of two prime numbers
34. Calculate the area of circle
35. Program to find roots of a Quadratic Equation

C. Problems on Number System

1. Convert Binary to Decimal
2. Convert binary to octal
3. Decimal to Binary conversion
4. Convert decimal to octal
5. Convert octal to binary
6. Convert octal to decimal
7. Convert digits/numbers to words
8. Problems on Sorting
9. Bubble Sort Algorithm
10. Selection Sort Algorithm

- 11.Insertion Sort Algorithm
- 12.Quick Sort Algorithm
- 13.Merge sort algorithm

D. Problems on String

1. Check if a given string is palindrome or not
2. Count number of vowels, consonants, spaces in String
3. Find the ASCII value of a character
4. Remove all vowels from the string
5. Remove spaces from a string
6. Remove characters from a string except alphabets
7. Reverse a String
8. Remove brackets from an algebraic expression
9. Sum of the numbers in a String
- 10.Capitalize first and last character of each word
- 11.Calculate frequency of characters in a string
- 12.Find Non-repeating characters of a String
- 13.Check if two strings are anagram of each other
- 14.Count common sub-sequence in two strings
- 15.Check if two strings match where one string contains wildcard characters
- 16.Return maximum occurring character in the input string
- 17.Remove all duplicates from the input string.
- 18.Print all the duplicates in the input string.
- 19.Remove characters from first string present in the second string
- 20.Change every letter with the next lexicographic alphabet in the given string
- 21.Write a program to find the largest word in a given string.
- 22.Write a program to sort characters in a string
- 23.Count number of words in a given string
- 24.Write a program to find a word in a given string which has the highest number of repeated letters
- 25.Change case of each character in a string
- 26.Concatenate one string to another
- 27.Write a program to find a substring within a string. If found display its starting position
- 28.Reverse words in a string