Sorting

Practice Questions

PW SKILLS

Problem 1.Given an array of n numbers, give an algorithm which gives the element appearing maximum number of times?

Problem 2 : We are given a list of n-1 integers and these integers are in the range of 1 to n . There are no duplicates in the list. One of the integers is missing in the list. Give an algorithm to find that element Ex: [1,2,4,6,3,7,8] 5 is the missing num.

Problem 3 : Given an array of n positive numbers. All numbers occurs even number of times except 1 which occurs odd number of times. Find that number in O(n) time and O(1) space. Ex: [1,2,3,2,3,1,3]. 3 is repeats odd times.

Problem 4 : Given an array of n elements. Find two elements in the array such that their sum is equal to given element K.

Problem 5 : Given an array of both positive and negative numbers, find two numbers such that their sum is closest to 0. Ex: [1 ,60 ,-10, 70, -80,85]. Ans : -80,85.

Problem 6 : Given an array of n elements . Find three elements such that their sum is equal to the given number.

Problem 7 : Given an array of n elements . Find three elements i, j, k in the array such that
i * i + j * j = k*k.

Problem 8 : An element is a majority if it appears more than n/2 times. Give an algorithm takes an array of n element as argument and identifies a majority (if it exists).

Problem 9 : Given n × n matrix, and in each row all 1's are followed by 0's. Find the row with the maximum number of 0's.

Problem 10 : Sort an array of 0's, 1's and 2's [or R's, G's and B's]: Given an array A[] consisting of 0's, 1's and 2's, give an algorithm for sorting A[].The algorithm should put all 0's first, then all 1's and finally all 2's at the end. Example Input = {0,1,1,0,1,2,1,2,0,0,0,1}, Output = {0,0,0,0,0,1,1,1,1,1,2,2}