1. Write a program to find duplicate number(s) on Integer array.

2. WAP that will take n integers into an array A. Now remove all duplicates numbers from that array. Finally print all elements from that array

3. Write a program to find intersection of two sorted array.

For example, if the two sorted arrays as input are {21, 34, 41, 22, 35} and {61, 34, 45, 21, 11}, it should return an intersection array with numbers {34, 21}. For the sake of this Problem, you can assume that numbers in each integer array are unique.

4. Write a program to find kth smallest element in unsorted array?

You are given an unsorted array of numbers and k, you need to find the kth smallest number in the array. For example if given array is {1, 2, 3, 9, 4} and k=2 then you need to find the 2nd smallest number in the array, which is 2.

5. Write a program to reverse array in place.

6. Write a program that will randomly generate 500 integer numbers in the range -249 to 250. Write those numbers in a text file named "in.txt". Now Sort (in ascending order) all the integer numbers in the file "in.txt" using Buuble Sort. Save the sorted output into another text file named "out.txt". (Try to write separate function for SWAP and BUBBLE_SORT and call them from main function.)

7. Write a program that will randomly generate 1000 uppercase letters. Write those alphabets in a text file named "in.txt". Now Sort (in ascending order) all the alphabets in the file "in.txt" using insertion sort. Use separate function for REPLACEMENT_SORT. Show the sorted output in your console window.

8. WAP that will take n positive integers into an array A. Now find all the integers that are divisible by 3 and replace them by -1 in array A. Finally show all elements of array A.

9. You are given some coins. You have to take some coins from the given coins such that the sum of the coins you took have a value strictly larger than the sum of the rest of the coins. However, you have to take minimum number of coins while satisfying this condition

Input

In the first line, you are given n (n<=100), the number of integer numbers. In the next line, you will be given n integers, separated by spaces.

Output

Output one number, the minimum number of coins you need to take to have a larger sum than the sum of the coins you did not take.

Input	Output
2 3 3	2
3 2 1 2	2
6 4 2 1 2 1 1	2

In the first sample you will have to take 2 coins. If you take 1 coin, you get sum 3, 3. If you take 0 coins, you get sums 0, 6. Those variants do not satisfy you as your sum should be strictly more than the other sum.

In the second sample one coin isn't enough for you, too. You can pick coins with values 1, 2 or 2, 2. In any case, the minimum number of coins equals 2.

In third sample, if you take the coin with value 4 and 2. You have a sum of 6, Rest of them will have a sum of 5. Answer is 2. And you can't to this in less than 2 coin.

10. Given a list of unsorted integers, find the pair of elements that have the smallest absolute difference between them. If there are multiple pairs, find them all.

Input Format

The first line contains a single integer , the length of the list.

The second line contains space-separated integers, .

Output Format

Output the pairs of elements with the smallest difference. If there are multiple pairs, Output any one of them.

Sample Input 0

10

-20 -3916237 -357920 -3620601 7374819 -7330761 30 6246457 -6461594 266854

Sample Output 0

-20 30

Explanation 0

(30) - (-20) = 50, which is the smallest difference.

Sample Input 1

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-20 -3916237 -357920 -3620601 7374819 -7330761 30 6246457 -6461594 266854 -520 -470

Sample Output 1

-520 -470

Explanation 1

(-470) - (-520) = 30 - (-20) = 50, which is the smallest difference. Only the first pair is given as output.

Sample Input 2

4

5 4 3 2

Sample Output 2

2 3