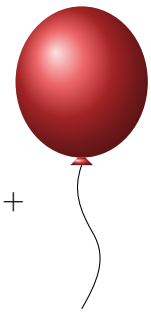
K Make Triangle



You are given n positive integers $x_1, x_2, \ldots, x_n$ and three positive integers n_a, n_b, n_c satisfying $n_a + n_b + n_c = n$.

You want to split the n positive integers into three groups, so that:

- The first group contains n_a numbers, the second group contains n_b numbers, the third group contains n_c numbers.
- Let s_a be the sum of the numbers in the first group, s_b be the sum in the second group, and s_c be the sum in the third group. Then s_a, s_b, s_c are the sides of a triangle with positive area.

Determine if this is possible. If this is possible, find one way to do so.

Input

Each test contains multiple test cases. The first line contains an integer t ($1 \le t \le 100\,000$) — the number of test cases. The descriptions of the t test cases follow.

The first line of each test case contains the integers n, n_a, n_b, n_c ($3 \le n \le 200\,000, 1 \le n_a, n_b, n_c \le n - 2, n_a + n_b + n_c = n$) — the number of integers to split into three groups, and the desired sizes of the three groups.

The second line of each test case contains n integers $x_1, x_2, \ldots, x_n$ ($1 \le x_i \le 10^9$).

It is guaranteed that the sum of n over all test cases does not exceed $200\,000$.

Output

For each test case, print `YES` if it is possible to split the numbers into three groups satisfying all the conditions. Otherwise, print `NO`.

If such a split exists, then describe the three groups as follows.

On the next line, print n_a integers $a_1, a_2, \ldots, a_{n_a}$ — the numbers in the first group.

On the next line, print n_b integers $b_1, b_2, \ldots, b_{n_b}$ — the numbers in the second group.

On the next line, print n_c integers $c_1, c_2, \ldots, c_{n_c}$ — the numbers in the third group.

These $n_a + n_b + n_c = n$ integers should be a permutation of $x_1, x_2, \ldots, x_n$, and they should satisfy the conditions from the statement.

If there are multiple solutions, print any of them.

Samples

Sample input 1	Sample output 1
4 6 2 2 2 1 1 1 1 1 1 5 3 1 1 1 1 1 1 1 6 2 2 2 1 1 1 1 1 3 8 1 2 5 16 1 1 1 1 1 1 12	YES 1 1 1 1 1 1 NO NO YES 16 12 1 1 1 1 1 1

Explanation of sample 1.

In the **first test case**, we can put two 1s into each group: the sum in each group would be 2, and there exists a triangle with positive area and sides 2, 2, 2.

In the **second and third test cases**, it can be shown that there is no such way to split numbers into groups.

In the **fourth test case**, we can put number 16 into the first group, with sum 16, numbers 12 and 1 into the second group, with sum 13, and the remaining five 1s into the third group, with sum 5, as there exists a triangle with positive area and sides $16, 13, 5$.