Question 02

You are given two sorted arrays arr1 and arr2 of lengths m and n respectively, and an integer x. Your task is to find the pair of elements (arr1[i], arr2[j]) such that the absolute difference between their sum and x is minimum.

Write a function or program to solve this problem efficiently.

Input:

The input consists of four parts:

The first line contains two integers m and n (1 \leq m, n \leq 10^5), representing the lengths of arrays arr1 and arr2 respectively.

The second line contains m space-separated integers, representing the elements of the sorted array arr1.

The third line contains n space-separated integers, representing the elements of the sorted array arr2.

The fourth line contains an integer x (-10⁹ \le x \le 10⁹), denoting the target sum.

Output:

Output two integers i and j, representing the indices of the pair (arr1[i], arr2[j]) such that the absolute difference between their sum and x is minimum. If there are multiple pairs with the same minimum absolute difference, output the pair with the smallest value of i and j.

Example:

| Sample Input: | Sample Input: |
|---------------|---------------|
| 4 5 | 4 4 |
| 1357 | 1 4 5 7 |
| 2 4 6 8 10 | 10 20 30 40 |
| 9 | 50 |
| Output: | Output: |
| 31 | 7 40 |
| | |
| | |

Explanation:

In the given example, the arrays arr1 and arr2 are [1, 3, 5, 7] and [2, 4, 6, 8, 10] respectively. The target sum x is 9. The pair (arr1[3], arr2[1]) = (7, 4) has the sum 7 + 4 = 11, which is closest to x = 9 among all pairs.

Note

Both arrays arr1 and arr2 are sorted in ascending order.

The absolute difference between the sum of elements of any pair (arr1[i], arr2[j]) and x should be minimized.