3 Point Shot

locked

by amrry

Problem Submissions Leaderboard Discussions

Max is watching a basketball game of team A versus team B (creative names, I know). He measures the distances when either team makes a succesful shot. A succesful shot is worth either 2 or 3 points, depending on the distance it was made from. A shot is worth 2 points if the distance it was made from, x, does not exceed d meters (x < d), and a throw is worth 3 points if the distance exceeds d meters (x ≥ d). d is a non-negative integer (d ≥ 0).

Max loves team A. Please help Max pick a d such that the advantage of points scored by team A is maximised. The advantage of points scored by the team A is defined as the score of team A subtract the score of team B.

Input Format

The first line contains an integer N, the number of successful shots performed by team A. Following this line, there are N space separated integers, the distances for each throw (a_i).

The next line contains an integer M, the number of successful shots performed by team B. Following this line, there are M space separated integers, the distances for each throw (b_i).

Constraints

$1 \leq N, M \leq 10^5$

$1 \leq a_i, b_i \leq 2 * 10^9$

Output Format

On a single line, print two integers: a and b separated by a space. a denotes score of team A and b denotes the score of team B. a − b should be as large as possible.

If there are multiple solutions, print the one where a is maximum.

Sample Input 0

```
3
1 2 3
2
5 6
```

Sample Output 0

```
9 6
```

Sample Input 1

```
5
6 7 8 9 10
5
1 2 3 4 5
```

Sample Output 1

```
15 10
```

Submissions: 87
Max Score: 20
Difficulty: Easy

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Current Buffer (saved locally, editable) Python 3

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Upload Code as File Test against custom input Run Code Submit Code