

Cardinality of Sets

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There are two sets of positive integers A and B with $|A| = m$ and $|B| = n$ (Remember that the cardinality of a set is the number of different elements it contains, the cardinality is indicated by the bars that enclose the set).

We want to determine the cardinalities of the sets that are obtained as a result $A - B$, $A \cap B$, $B - A$ and $A \cup B$.

Input Format

The input contains only one test cases, with the following structure:

The first line contains two positive integers m n ($1 \leq m, n \leq 10^6$), which represent the cardinalities of the sets A and B respectively.

The second line contains m different positive integers (separated by a blank space) which make up the set A , these values are in the closed interval $[0, 10^9]$.

The third line contains n different positive integers (separated by a blank space) which make up the set B , these values are in the closed interval $[0, 10^9]$.

Constraints

$$1 \leq m, n \leq 10^6$$

$$A_i \in A$$

$$A_i \in [0, 10^9]$$

$$B_j \in B$$

$$B_j \in [0, 10^9]$$

Output Format

For each test case, the output must contain a single line with four non-negative integers, separated by a single space, which respectively represent $|A - B|$ $|A \cap B|$ $|B - A|$ $|A \cup B|$.

Sample Input 0

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

Sample Output 0

2 3 3 8

Sample Input 1

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

Sample Output 1

5 0 5 10

Sample Input 2

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

Sample Output 2

2 6 0 8

[f](#) [t](#) [in](#)

Submissions: 75

Max Score: 100

Difficulty: Medium

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C

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <math.h>
4 #include <stdlib.h>
5
6 int main() {
7
8     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
9     return 0;
10 }
```

Line: 1 Col: 1

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