GFSSOC '14 Winter S1 - Friendship is a number

Time limit: 2.0s **Memory limit:** 32M

Griffy now needs to make friends at Don Mills! Griffy has found N programmer candidates that he may want to make friends with. The IDs of the programmers are labelled $1, 2, \ldots, N$. Each programmer has T different traits, and their total friend-points is the product of all of these traits. Griffy wants to find the top 3 candidates with the most friend-points, and make friends with them! Griffy is not very good at math, so please help him! It is guaranteed that there will be no ties.

Input Specification

First line: A single integer N $(3 \leq N \leq 100)$.

Lines 2 to $N+1$: an integer, T, followed by T space separated integers, representing the candidate's traits ($1 \leq T \leq 100$, for each trait t, $-10 \leq t \leq 10$).

It is guaranteed that the friend-points will fit into a 64-bit signed integer.

Output Specification

3 lines, the IDs of the top three candidates sorted in decreasing order of friend-points.

Sample Input

```
5
3 2 5 1
2 5 3
3 -2 6 4
4 1 1 1 1
2 10 10
```

Sample Output

```
5
2
1
```

Explanation for Sample Output

Candidate 5 has $10 \times 10 = 100$ friend-points, candidate 2 has $5 \times 3 = 15$ friend-points, and candidate 1 has 10 friend-points. These are the top 3 friend-points values.