Problem I. Set Intersection

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

You are given $(n + 1)$ sets. Sets consist of integer elements between 1 and $2n$. The sizes of all sets are exactly n. The number n is **even**.

Proposition: there are always two sets, intersection of which has at least $\frac{n}{2}$ elements.

The task: find such two sets.

Input

The first line contains an integer n ($1 \le n \le 6000$, n is **even**). The next $(n + 1)$ lines contain $\lceil \frac{2n}{6} \rceil$ characters each. Each line contains encoded sequence of $2n$ zeroes and ones. There is a 1 on j-th position of i-th sequence if i-th set contains element j, or 0 otherwise. Thus, there are exactly n ones in each sequence.

Let us describe the encoding process. Consider a sequence $a_0, a_1, a_2, \ldots, a_{2n-1}$ of zeroes and ones. Let us append some zeroes to the end of the sequence to make its length divisible by 6. Now let us create a new sequence: $b_0 = \sum_{j=0}^{5} a_j \cdot 2^j$, $b_1 = \sum_{j=0}^{5} a_{j+6} \cdot 2^j$, $b_2 = \sum_{j=0}^{5} a_{j+12} \cdot 2^j$, $\ldots$

The characters with ASCII codes $33 + b_0, 33 + b_1, 33 + b_2, \ldots$ form the encoded sequence.

Output

Sets are enumerated from 1 to $(n + 1)$ in the order they are given in the input. Output two different integers: the numbers of sets, intersection of which has at least $\frac{n}{2}$ elements. If there are several possible answers, output any one of them.

Example

standard input	standard output
4 7" *$ D# M" ;"	2 3

Note

Decoded sequences:

1. 01101010
2. 10010011
3. 11000101
4. 00110110
5. 01011010