Problem I. Impossible Numbers

Input file:	`standard input`
Output file:	`standard output`
Time limit:	5 seconds
Memory limit:	256 megabytes

You have received a calendar cube for your birthday! Fascinated by the fact that each day of the month could be constructed by using the two cubes in a specific orientation, you got an idea. You ordered n cubes online. Each cube has some digit written on each of its six faces. Digits may repeat within a cube.



Two number cubes forming the number 25.

Your curious mind begins to wonder: what are the k smallest numbers that **cannot** be obtained by using some of the n cubes in a specific orientation? Numbers must not contain leading zeros. Note that you can choose to not use some cube if you don't want to.

Input

The first line of the input contains two integers n and k ($1 \le n \le 100$, $1 \le k \le 10^5$).

Each of the following n lines contains exactly six numbers between 0 and 9 inclusively, representing the digits written on each of the six faces of the cubes.

Output

Output the smallest k positive numbers that cannot be obtained using the cubes, separated by space. The numbers must not contain leading zeros, and must be sorted **in increasing order**.

Examples

standard input	standard output
2 3 1 8 7 0 6 2 1 2 5 4 9 3	33 34 35
1 10 1 5 2 2 6 4	3 7 8 9 10 11 12 13 14 15
4 10 1 5 7 1 2 4 0 1 5 8 9 4 3 5 2 2 7 8 6 1 7 0 2 2	33 66 99 133 166 199 233 266 299 303