ZIRNIK

Çağatay is a oppressed computer science student who wants to buy a computer and he is going through some financial issues.

Çağatay has wrote down the M attributes of N computers during his market research. Some computers have performance bottlenecks. If the difference between any two attributes of a computer is more than K, the bigger attribute will be reduced to smaller attribute plus K.

Total sum of attributes of a computer has to be bigger than certain power value which denoted as P in order to meet his needs. Çağatay's father doesn't give even a smallest bit money to his son and now Çağatay is forced to use the moneys he saved up which denoted as X.

Help Çağatay to find the computer that satisfies his needs and has the lowest price/performance ratio.

Input Format

First line contains 5 space seperated integers:
Number of computers N, number of attributes M, difference value K, power value P and the total amount of money that Çağatay has X.
Each following N lines contain M + 1 space seperated integers: Price of the computer and M attributes.

Output Format

Print a single integer which denotes the index of the computer that Çağatay will buy, print -1 if there is no computer that satisfies Çağatay's needs. Computers are 1-indexed, namely the very first computer in input corresponds to 1 and so forth.

Constraints

$1 <= N <= 10^3$
$1 <= M <= 10^3$
$1 <= M\_i <= 10^2$
$1 <= K <= 10^2$
$1 <= P <= 10^5$
$1 <= X <= 10^6$

Sample Input1:

3 3 3 26 3000
2000 15 10 8
4000 20 17 15
3000 8 9 6

Sample Output1:
1

Explanation1:

Çağatay can only afford first and third computers.
For the first computer:
We will check every pair of attributes for bottleneck. When we start checking from the top:
For the 1. and 2. attributes (15, 10), 1. attribute will be reduced to 13 since K equals 3 and 10 + 3 = 13.
For the 1. and 3. attributes (13, 8), again 1. attribute will be reduced to 11 since 8 + 3 = 11.
For the 2. and 3. attributes (10, 8), there will be no changes since 8 + 3 >= 10.
Total performance of the computer is 11 + 10 + 8 = 29.
Price/Performance = 2000 / 29.

For the third computer:
There will be no changes in attributes since the difference between any pair of attributes is not bigger than K.
Performance value of the computer is 23.
This comptuer can't be purchased since it doesn't meet the Çağatay's power value requirement.
Output comptuer's index will be "1" which has the lowest price/performance value.