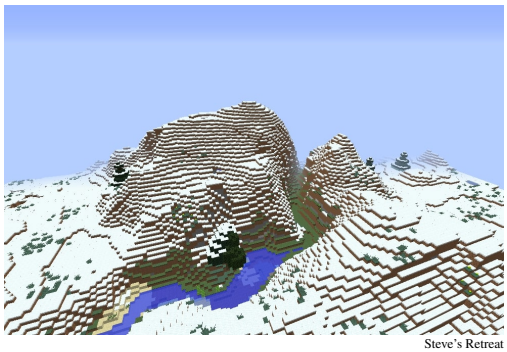
Up and Away

Problem ID: upandaway



Steve's Retreat

Steve has set up n bases on multiple mountains around his house, located at mountain 1. He wants to fly from one base to another using his elytra and get to his vacation house at mountain x. Unfortunately, flying from one base to another takes time, and he can only do this from a taller mountain to a shorter mountain! If mountains are equal height, he can fly between them as well.

Fortunately, he has k uses of fireworks, meaning he can also travel from a shorter mountain to a taller mountain! However, he doesn't have much fireworks, so the total amount of elevation travelled upwards using fireworks throughout the whole trip must not exceed k. Please help Steve calculate the fastest time he can reach his vacation house, or determine that he can't!

Input

The first line contains three space-separated integers n, x, and k, where $1 \leq n, k \leq 100$ and $1 \leq x \leq n$, the number of bases, the location of the vacation house and the amount of fireworks, respectively.

The second line contains n space-separated integers $h_1, h_2, \ldots, h_n$, where h_i ($1 \leq h_i \leq 100$) is the height of the i^{th} base's mountain.

The next n lines each contain n integers each, where the j^{th} integer on the i^{th} of these n lines is the time it takes to travel from the i^{th} base to the j^{th} base. The i^{th} number on the i^{th} of these n lines will always be 0. The time between mountains will not exceed $1\,000$.

Output

If Steve can reach his vacation house, output a single integer, the minimum time Steve needs to reach his vacation house at base x. If he cannot reach his vacation house, output -1.

Sample Input 1	Sample Output 1
3 3 3 3 6 2 0 1 10 10 0 1 10 10 0	2