Nikola is a passionate collector of albums with images of football players. He and his friends compete with each other in a game they invented based on the albums whose images are currently being collected. The images in that album are divided into N teams, each of which has exactly M football players. The main rule of the game is that the total number of points a person wins for i^{th} team is B_x, where x is the total number of unique pictures of football players of that team collected by the person. They have also agreed that the array B is growing, i.e. having more unique images of football players of a team means having more or equal points.

Nikola would like to win as many points as possible in the game. For each team x the amount of unique images Nikola currently owns of that team, P_x, is known.

Ivan is a friend of Nikola who has already collected the entire album twice and when he heard about the game Nikola plays with his friends, he decided to give him any K images that Nikola wants. After finding out about this joyful news, Nikola wondered what is the maximal number of points he could have after Ivan gives him K images. Too excited for this news, he is not able to count and begs you to answer his question.

INPUT

In the first line there are integer numbers N, M and K ($1 \le N$, $M \le 500$, $1 \le K \le \min(N \cdot M, 500)$), numbers from the task's text.
In the second line there is an array P consisting of N non-negative integer numbers ($0 \le P_i \le M$).
In the third line there is an array B consisting of $M+1$ non-negative integer numbers ($0 \le B_i \le 100\ 000$), amount of points Nikola gets for i ($0 \le i \le M$) unique images of a team.
For every t between 0 and $M-1$ it holds $B_t \le B_{t+1}$.
It is also holds that $K \le N \cdot M - (P_1 + P_2 + \ldots + P_N)$.

OUTPUT

In the only line print the answer to Nikola's question.

SCORING

In test samples totally worth 20% of the points it will hold $K = 2$.

SAMPLE TESTS

input	input	input
4 4 3 4 2 3 1 0 1 3 6 10	4 3 5 1 1 2 3 0 1 2 3	3 6 2 2 4 1 31 38 48 60 75 91 120

output	output	output
31	12	206

Clarification of the first sample:

Nikola is most likely to ask Ivan to give him an image of the third team and two from the second, so that his score is 31 (10 + 10 + 10 + 1).