

Problem C. Boxes and Balls

Input file: *standard input*
 Output file: *standard output*
 Time limit: 1 second
 Memory limit: 512 mebibytes

There are M boxes and N balls. The balls are numbered 1 through N , and the weight of the ball i is w_i . You are also given a sequence a_1, a_2, \dots, a_K . Each a_j is an integer satisfying $1 \leq a_j \leq N$.

Initially, all the boxes are empty. For each $j = 1, 2, \dots, K$ in this order, you have to perform the following operation:

- If one of the boxes contains the ball a_j , you do nothing. There is no cost for this operation.
- Otherwise, you choose one of the boxes and put the ball a_j into the chosen box. However, if the chosen box already contains another ball, you should take that ball out of the box. The cost for this operation is w_{a_j} (the cost doesn't depend on the box nor the ball you take out of the box).

Compute the minimum possible total cost of operations.

Input

The first line contains three integers M , N and K ($1 \leq M \leq 10$, $1 \leq N, K \leq 10^4$).

The i -th of the next N lines contains an integer w_i ($1 \leq w_i \leq 10^4$).

The j -th of the next K lines contains an integer a_j ($1 \leq a_j \leq N$).

Output

Print the minimum total cost.

Examples

standard input	standard output
3 3 6 10 20 30 1 2 3 1 2 3	60
2 3 6 10 20 30 1 2 3 1 2 3	80