

FARMER

Hiện tại, bài tập này đã có trên online judge chính thức của VNOI, bạn có thể truy cập ở đây: <https://oj.vnoi.info/problem/lqdfarm>

A farmer has a set of fields, each of which is surrounded by cypress trees. Also, the farmer has a set of strips of land, each of which has a row of cypress trees. In both fields and strips, between every two consecutive cypress trees is a single olive tree. All of the farmer's cypress trees either surround a field or are in a strip and all of the farmer's olive trees are between two consecutive cypress trees in a field or in a strip.

One day the farmer became very ill and he felt that he was going to die. A few days before he passed away he called his eldest son and told him, "I give you any Q cypress trees of your choice and all the olive trees which are between any two consecutive cypress trees you have chosen."
>From each field and from each strip the son can pick any combination of cypress trees. Since the eldest son loves olives he wants to pick the Q cypress trees which will allow him to inherit as many olive trees as possible.

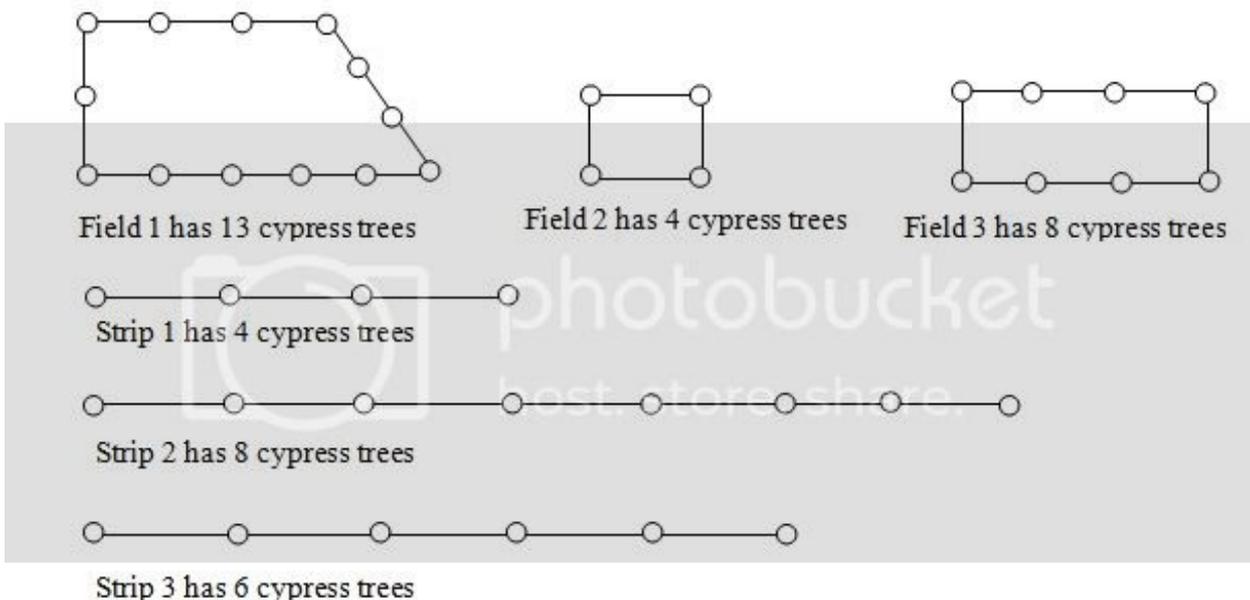


Figure 1 An example setting of cypress trees; olive trees are not shown.

In Figure 1, assume that the son is given $Q=17$ cypress trees. To maximize his olive inheritance he should choose all the cypress trees in Field 1 and Field 2, inheriting 17 olive trees.

You are to write a program which, given the information about the fields and the strips and the number of cypress trees the son can pick, determines the largest possible number of olive trees the son may inherit.

INPUT

The input file name is farmer.in. The first line contains first the integer Q : the number

of cypress trees the son is to select; then the integer M , the number of fields; and then the integer K , the number of strips. The second line contains M integers N_1, N_2, \dots, N_M : the numbers of

cypress trees in fields. The third line contains K integers R_1, R_2, \dots, R_K : the numbers of cypress trees in strips. ($0 \leq Q \leq 150000$, $3 \leq N_i \leq 150$, $2 \leq R_i \leq 150$)

OUTPUT

The output file name is farmer.out. The file is to contain one line with one integer: the largest possible number of olive trees the son may inherit.

EXAMPLE INPUTS AND OUTPUTS

Input	Output
17 3 3	17
13 4 8	
4 8 6	