Problem G. Square Peg in a Round Hole

Time limit	1000 ms
Mem limit	1048576 kB
OS	Linux

Mr. Johnson likes to build houses. In fact, he likes it so much that he has built a lot of houses that he has not yet placed on plots. He has recently acquired N circular plots. The city government has decided that there can be only one house on each plot, and a house cannot touch the boundary of the plot.

Mr. Johnson has M circular houses and K square houses. Help him figure out how many of the plots he can fill with houses so that he can get some money back on his investments.

Input

The first line of input consists of 3 space-separated integers N, M, and K. The second line contains N space-separated integers, where the i^{th} integer denotes the radius r_i of the i^{th} plot. The third line contains M space-separated integers, where the i^{th} integer denotes the radius r_i of the i^{th} circular house. The fourth line contains K space-separated integers, where the i^{th} integer denotes the side length s_i of the i^{th} square house.

Output

Output the largest number of plots he can fill with houses.

Limits

- $1 \leq N, M, K, r_i, s_i \leq 100$

Sample 1

Input	Output
5 3 3 1 2 6 7 8 2 6 7 4 8 9	3