Jellyfish and Game

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Jellyfish has n green apples with values $a_1, a_2, \ldots, a_n$ and Gellyfish has m green apples with values $b_1, b_2, \ldots, b_m$.

They will play a game with k rounds. For $i = 1, 2, \ldots, k$ in this order, they will perform the following actions:

- If i is odd, Jellyfish can choose to swap one of her apples with one of Gellyfish's apples or do nothing.
- If i is even, Gellyfish can choose to swap one of his apples with one of Jellyfish's apples or do nothing.

Both players want to maximize the sum of the values of their apples.

Since you are one of the smartest people in the world, Jellyfish wants you to tell her the final sum of the value of her apples after all k rounds of the game. Assume that both Jellyfish and Gellyfish play optimally to maximize the sum of values of their apples.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 2000$). The description of the test cases follows.

The first line of each test case contains three integers, n, m and k ($1 \le n, m \le 50$, $1 \le k \le 10^9$) — the number of green apples Jellyfish has, the number of green apples Gellyfish has and the number of rounds of the game respectively.

The second line of each test case contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^9$) — the values of Jellyfish's green apples.

The third line of each test case contains m integers $b_1, b_2, \ldots, b_m$ ($1 \le b_i \le 10^9$) — the values of Gellyfish's green apples.

Do note that the sum of n and m over all test cases are both not bounded.

Output

For each test case, output a single integer — the final sum of the values of Jellyfish's apples.

Example

standard input	standard output
4 2 2 1 1 2 3 4 1 1 10000 1 2 4 5 11037 1 1 4 5 1 9 1 9 8 1 1 1 2 1	6 1 19 2

Note

In the first test case, Jellyfish will swap the apple of value 1 and 4.

In the second test case, both players will swap the two apples $10,000$ times.

In the fourth test case, Jellyfish will do nothing.