Problem F. Square Permutation I

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	1024 megabytes

Give two permutations p and q of length n. It is guaranteed that n is an odd number. You must perform exactly one of the following operations for each position $i \in [1, n]$:

1. Perform no operation at no cost.
2. Spend a cost of x_i to either modify p_i to p_i^2 or modify q_i to q_i^2.
3. Spend a cost of y_i to modify both p_i to p_i^2 and q_i to q_i^2.

Please find the minimum cost required to make the median of array p equal to A and the median of array q equal to B. If it's impossible, output -1.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 10^4$) . The description of the test cases follows.

The first line of each test case contains three single integers n, A, B ($1 \le n \le 10^5, 1 \le A, B \le n^2$).

The second line gives n positive integers, representing the permutation p.

The third line gives n positive integers, representing the permutation q.

The fourth line gives n positive integers, representing the array x .

The fifth line gives n positive integers, representing the array y ($1 \le x_i \le y_i \le 10^4$).

It is guaranteed that the sum of n over all test cases does not exceed 10^5.

Output

For each test case, output -1 if it is impossible.

Otherwise, output the minimum cost.

All outputs must be printed on separate lines.

Example

standard input	standard output
3 7 6 7 7 3 5 6 2 4 1 1 6 3 4 2 7 5 5 1 1 4 4 1 1 6 4 6 6 6 1 1 9 5 5 1 2 3 4 5 6 7 8 9 9 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 9 2 3 4 5 6 7 8 9 9 3 2 3 1 2 3 2 3 1 10000 1 1 10000 1 1	7 0 10000