Analysis for task toys

Let’s take a look at the task statement – we need to find the min sum, which Ivancho has to take, to be sure he‘s able to buy the chosen toys. To do so, we need to connect the toys with the highest quantity to the highest toy value, the next highest quantity to the next highest value and so on. The easiest way is to store the quantities and the values in separate arrays and sort them in descending order. Then we multiply the i-th elements of both arrays, where i = 0,1,…,N-1. By summing the products we have found the answer to the problem.

The original limits we used for generating the tests were:

N <= 5000

N <= M <= 10000,

but they were stated wrong in the task statement. Because of that, new tests were generated with limits:

N <= M <= 5000

In the worst case scenario we’d have N\*N\*N = 5000^3 = 125`000`000`000. The number is higher than (2^32)-1, so long long int should be used.

The solution has time complexity of O(NlogN + MlogM + N).

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