Problem LOTTO: Lotto in Bielefeld

Have you ever wondered that the winners of German 6/49 Lotto disproportionately often come from anonymous cities in the state North Rhine-Westphalia? I realized an almost unbelievable fact last time while searching the internet for proofs of my theory: In North Rhine-Westphalia, there is a city that does not exist! THEY only created the illusion about the existence of Bielefeld. It is the truth! Or do you know anyone from Bielefeld? Have you ever been there? Do you know anybody who has ever been to Bielefeld?

This illusion of Bielefeld probably is very costly, so THEY seem to finance THEIR system by winning huge Lotto jackpots. I did not bring to light how THEY could manipulate the whole Lotto system but perhaps THEY know the six numbers one week earlier...

Since winning huge jackpots draws many people's attraction, this kind of approach is not very smart. Therefore, I propose a smarter Lotto manipulation strategy: I would play with the same numbers for a consecutive sequence of weeks in a row. As I know the Lotto numbers for some weeks in advance, I can compute the estimated profit for each week. Now I ask you for a computer program that tells me at which stretch of weeks my numbers make the largest profit. These are my constraints:

- The same numbers will be used every week.

- My profit should be maximized.

- I will play Lotto in **each** drawing of the interval of weeks regardless of a possible bad result in single drawings (in order not to attract too much attention).

Be aware: THEY keep an eye on you!

Input

There is only one test case. First, you get six numbers on a line, representing my lotto numbers L_i ($0 < L_i < 50$, no number twice). The second line of a test case holds the number W ($0 \leq W \leq 1,000,000$) of weeks for which I know the lotto numbers in advance. The last line of a test case consists of W integer values P_i, the profit in week i in Euros. If my numbers were not drawn, the profit may be negative. You may safely assume that $|P_i| \leq 10,000$.

Output

Write the maximal profit I can get with my Lotto strategy on a single line as shown in the sample output. If you cannot make money, you do not have to play Lotto at all. You may safely assume that the maximal profit is less than 2^{63} Euro.

In the sample input, the maximal profit can be reached with the interval that starts at week 3 and ends at week 6 (both inclusive). Although week 4 gives negative profit, it is required to play the same numbers also in this drawing in order not to attract too much attention.

Sample Input 1

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2 3 5 7 23 42
8
3 -7 12 -5 8 8 -4 2
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Sample Output 1

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23 Euro
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