

Problem STORMTROOPERDATING: Stormtrooper Dating

Stormtrooper cadets at the imperial academy train hard to stand out of the crowd. Being allowed to wear the fashionable uniform of a Snowtrooper, Sandtrooper, Scout or even Phase II dark trooper is their ultimate goal.

The hardest exercises for them are the infamous aiming courses set up by Darth Norbert. As everyone knows, Stormtroopers do not aim very well. To pass the aiming exercises, you have to hit a certain percentage of all the targets set up in the different aiming sessions throughout the year. Usually, these sessions are done in groups of two cadets, but one might do them alone as well for the challenge.

Darth Norbert soon found out that this gives him a great business model: similar to a dating platform, he offers a service to find a matching team partner for you. If you pass the course and wouldn't have passed it when doing it alone, Darth Norbert gets money from you. If you help a cadet to pass and would have been able to pass on your own, the platform gives you some money.



Darth Norbert after he switched to the dark side.

Let us assume that many users registered at the platform already, some searching for help, the better cadets looking for money. Cadets need to have an average individual score of at least N percent over all targets. If targets were hit by a team of two the achieved score counts for both individual scores. At the current point of time, D percent of the aiming sessions are already over, and each cadet has hit a certain percentage of the targets so far.

It is assumed that a cadet who hit p percent of the targets up to this point will also hit p percent of the remaining targets. If, instead, two cadets form a team and their hit percentages are p_a and p_b percent respectively, their hit percentage for the remainder of the course will be $\min\left(\frac{p_a+p_b}{2} + T, 100\right)$ percent. T is a "team improvement coefficient" determined by Darth Norbert.

Can you match the users in a way that the "dating" platform makes the most money? It is not necessary that all cadets get assigned a partner and some cadets may fail the course in the end. However, Darth Norbert's platform guarantees its users that they will not fail the course if it manages to find a partner for them, so everybody who gets a partner also has to pass the course.

Input

The first line contains three integers U , N , and T , where U denotes the number of users of the platform, N denotes the percentage of targets to hit and T denotes the percentage a team improves because of working as a team ($1 \leq U \leq 10^6$; $1 \leq N \leq 100$; $0 \leq T \leq 50$). The second line contains three integers G , P , and D , where G denotes the money the platform earns for cadets that pass the course because of the platform. P denotes the money the platform pays if you help a cadet to pass the course and D is the percentage of targets already done in the course ($1 < G \leq 10\,000$; $1 \leq P < G$; $1 \leq D \leq 99$). The last line contains U integers p_i , where p_i denotes the percentage of hit targets so far for student i ($0 \leq p_i \leq 100$).

Output

One line containing the amount of money Darth Norbert can make using the optimal matching of cadets to teams.

Explanation of the Sample Input

In the first case, only a team consisting of the second and third cadet will be able to pass. Pairing them up earns the platform $2 * 21 = 42$. In the second case it optimal to match up the first cadet with the fourth, and the second with the third. The net profit of the platform is $3 * 21 - 11 = 52$.

Sample Input 1

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4 60 5
21 11 70
58 59 59 58
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Sample Output 1

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42
```

Sample Input 2

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4 60 5
21 11 70
58 59 59 62
```

Sample Output 2

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52
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