

Problem K. Dance

Input file: *standard input*
Output file: *standard output*
Time limit: 4 seconds
Memory limit: 256 mebibytes

Marichka and her girlfriends are preparing a dance act for the upcoming New Year celebration. Their first task is to setup a starting lineup and divide into groups for the dance move.

There are n girls (including Marichka), and the i -th girl is initially located at point x_i on a line that goes from the left to the right. They can divide themselves into as many groups as they like, in such a way that each girl belongs to exactly one group. They calculate ineffectiveness of j -th group as integer value $a + b \times (r_j - l_j)$, where l_j and r_j are the positions of the leftmost and the rightmost girls in the j -th group, respectively.

Since they don't like the current lineup, they decided that each girl will move exactly d units to the left or to the right. Note that multiple girls may be located at the same position.

They would like to know the minimum possible total ineffectiveness after all girls move and divide themselves in groups.

Input

The first line contains four integers n , d , a and b ($1 \leq n \leq 100$, $1 \leq d \leq 50$, $1 \leq a, b \leq 10^6$). The second line contains n integers x_i , which are the initial positions of the girls ($1 \leq x_i \leq 100$).

Output

In the first and only line print the answer to the problem.

Examples

standard input	standard output
3 1 2 1 4 1 7	5
3 1 7 1 4 1 7	11