

Shoes

Input file: *standard input*
Output file: *standard output*
Time limit: 4 seconds
Memory limit: 1024 mebibytes

Planning his vacation, Nikita decided to make it worthwhile and buy himself a new pair of shoes. To do this, he studied the assortment of stores located on the same street as his hotel, and selected n pairs of shoes to try on. Nikita knows that each pair of shoes requires k seconds to try on, and plans to allocate T seconds each day for visiting the stores. The street is a coordinate line, with a movement speed of one unit per second, and the hotel is located at the origin, where each visit to the stores must begin and end. Find the minimum number of vacation days that Nikita will need to try on all the shoes he is interested in.

Input

The first line contains three integers n , k , and T ($1 \leq n \leq 10^4$; $1 \leq k \leq T \leq 10^{18}$): the number of pairs of shoes, the time required for trying on, and the amount of daily free time that can be spent on visiting the stores. The second line contains n integers: the coordinates of the pairs of shoes planned for trying on. Note that these coordinates are not necessarily distinct: some pairs of shoes may be in the same store, and a store may be located within the hotel premises. However, it is guaranteed that each pair of shoes can be tried on in one evening.

Output

Output a single integer: the answer to the problem.

Example

<i>standard input</i>	<i>standard output</i>
5 100 400 -2 -1 -150 99 98	3