

Sweets

John has got n jars with candies. Each of the jars contains a different kind of candies (i.e. candies from the same jar are of the same kind, and candies from different jars are of different kinds). The i -th jar contains m_i candies. John has decided to eat some of his candies. He would like to eat at least a of them but no more than b . The problem is that John can't decide how many candies and of what kinds he would like to eat. In how many ways can he do it?

Input

The first line of input contains three integers: n , a and b , separated by single spaces ($1 \leq n \leq 10$, $0 \leq a \leq b \leq 10000000$). Each of the following n lines contains one integer. Line $i+1$ contains integer m_i - the amount of candies in the i -th jar ($0 \leq m_i \leq 1000000$).

Output

Let k be the number of different ways John can choose the candies to be eaten. The first and only line of output should contain one integer: $k \bmod 2004$ (i.e. the remainder of k divided by 2004).

Example

Input:

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2 1 3
3
5
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Output:

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9
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John can choose candies in the following ways: (1,0), (2,0), (3,0), (0,1), (0,2), (0,3), (1,1), (1,2), (2,1)