Japanese Gift Money

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

There are N types of banknotes, and the i-th type of banknote is the A_i-yen note. You have 10^{100} banknotes of each type. Here, $A_1 < A_2 < \cdots < A_N$ holds, and for each i such that $1 \leq i \leq N-1$, A_{i+1} is a multiple of A_i.

You are going to select some of these banknotes and put them into an envelope.

A way to put banknotes into the envelope is called **a good way of putting x yen** if the following conditions are satisfied:

- The total amount of money in the envelope is x yen.
- It is impossible to select banknotes from the envelope such that their total amount is exactly $\frac{x}{2}$ yen.

Besides, x yen is called **a good amount of money** if there exists a good way of putting x yen.

Find the number of good amounts of money between L yen and R yen, inclusive.

Input

The input is provided in the following format from standard input:

N L R
A_1 A_2 $\ldots$ A_N

- All inputs are integers.
- $1 \leq N \leq 60$
- $1 \leq L \leq R \leq 10^{18}$
- $1 = A_1 < A_2 < \cdots < A_N \leq 10^{18}$
- A_{i+1} is a multiple of A_i. $(1 \leq i \leq N-1)$

Output

Print the answer on a single line.

Examples

standard input	standard output
3 20 30 1 5 10	8
8 500007484602844543 985892611352151235 1 1971 151767 10927224 87417792 118975614912 263174060185344 43686893990767104	483957600323779237

Note

For instance, 30 yen is a good amount of money, because putting three 10-yen notes is a good way of putting 30 yen.

On the other hand, 20 yen is not a good amount of money, because there is no good way of putting 20 yen.

There are 8 good amounts of money between 20 yen and 30 yen: $21, 23, 25, 26, 27, 28, 29, 30$ yen.