

[Home](#) » [Compete](#) » [February Challenge 2017](#) » Chef and Triangles

Chef and Triangles

Problem Code: **MAKETRI**[Tweet](#) [Like](#) [Share](#) Sign Up to see what your friends like.

All submissions for this problem are available.

Read problems statements in [Mandarin Chinese](#), [Russian](#) and [Vietnamese](#) as well.

Chef is long been involved in cooking recipes. He has now got bored with it, and has to decided to play with food instead of cooking it up.

He has already selected N spaghetti strands for his dish. He has to select just one extra strand such that this strand's length makes a non-degenerate [triangle](#) with some of the two other strands already present in the dish. A triangle formed by three collinear points is called a degenerate triangle. The length of the strand to be selected must be an integer in the range $[L, R]$ (both inclusive).

Formally, let array L denote the lengths of N strands, then the extra strand of length X can be selected if there exists two different indices i, j ($i \neq j$) such that there can be made a triangle of side lengths L_i, L_j and X .

Can you help him find the number of possible valid lengths of the extra strand?

Note again that three collinear points are not considered to form a triangle.

Input

First line of the input contains three space separated N, L and R , denoting the number of strands already present in the dish and the range of the length of the new strand to be selected respectively.

The next line contains N space separated integers, where the i -th integer L_i denotes the length of the i -th strand.

Output

Output a single line corresponding to the answer of the problem.

[All Submissions](#)[Successful Submissions](#)

Constraints

We use cookies to personalise your experience, to provide social media features and to analyse our traffic. We also share information about your use of our site with our social media, advertising and analytics partners who may combine it with other information that you've provided to them or that they've collected from your use of their services. You consent to our cookies if you continue to use our website.

Read our [Privacy Policy](#) and [Terms](#) to know more.

[Save my Cookies](#)

Subtasks

Subtask #1 (10 points):

- $2 \leq N \leq 100$
- $1 \leq L \leq R \leq 10^6$

Subtask #2 (30 points):

- $2 \leq N \leq 1000$
- $1 \leq L \leq R \leq 10^{18}$

Subtask #3 (60 points):

- $2 \leq N \leq 10^6$
- $1 \leq L \leq R \leq 10^{18}$

Example

Input :

```
5 1 4
1 2 3 4 5
```


Output :

```
3
```

Explanation

If Chef chooses the strand of length 1, he can't form a triangle using this strand and the any of the pair of strands of length 1, 2, 3, 4, 5. However, for each of the extra strand of length 2, 3, 4, one can find at least one pair of strands such that those pair of strands and the extra strand makes a triangle. So, the answer will be 3.

Author:  [kevind](#)

Tester:  [mgch](#)

Tags: [kevind](#)

Date Added: 14-01-2017

Time Limit: 1 - 3 secs

Source Limit: 50000 Bytes

Languages: C, CPP14, JAVA, PYTH, PYTH 3.5, PYPY, CS2, PAS fpc, PAS gpc, RUBY, PHP, GO, NODEJS, HASK, SCALA, D, PERL, FORT, WSPC, ADA, CAML, ICK, BF, ASM, CLPS, PRLG, ICON, SCM qobi, PIKE, ST, NICE, LUA, BASH, NEM, LISP sbcl, LISP clisp, SCM guile, JS, ERL, TCL, PERL6, TEXT, SCM chicken, CLOJ, FS

Comments ►

CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

Compete - Monthly Programming Contests and Cook-offs

Here is where you can show off your **computer programming skills**. Take part in our 10 day long monthly coding contest and the shorter format Cook-off **coding contest**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), \$700 (for Global Community) and lots more CodeChef goodies up for grabs.

Programming Tools

[Online IDE](#)

[Upcoming Coding Contests](#)

[Contest Hosting](#)

[Problem Setting](#)

[CodeChef Tutorials](#)

[CodeChef Wiki](#)

Practice Problems

[Easy](#)

[Medium](#)

[Hard](#)

[Challenge](#)

[Peer](#)

[School](#)

[FAQ's](#)

Initiatives

[Go for Gold](#)

[CodeChef for Schools](#)

[Campus Chapters](#)