

06 : 22 : 50 : 08  
DAY HRS MIN SEC

## June Circuits '20

LIVE

Jun 20, 2020, 09:30 PM IST - Jun 27, 2020, 09:30 PM IST

9  
LIVE EVENTS

INSTRUCTIONS

PROBLEMS

SUBMISSIONS

LEADERBOARD

ANALYTICS

JUDGE

[← Problems](#) / Number of triangles

## Number of triangles

Max. score: 100

You are given a polygon of  $N$  sides with vertices numbered from  $1, 2, \dots, N$ . Now, exactly  $2$  vertices of the polygons are colored black and remaining are colored white. You are required to find the number of triangles denoted by  $A$  such that:

1. The triangle is formed by joining only the white-colored vertices of the polygon.
2. The triangle shares at least one side with the polygon.

## Input format

- The first line contains  $t$  denoting the number of test cases.
- Next  $t$  lines contain three space-separated integers  $N, B1$ , and  $B2$  where  $N$  is the number of sides in the polygon and  $B1, B2$  denote the vertices that are colored black.

## Output format

For each test case, print the answer  $A$  representing the number of triangles that can be formed with the given conditions in the problem statement.

## Constraints

$$1 \leq t \leq 100$$

$$5 \leq N \leq 10^5$$

$$1 \leq B1, B2 \leq N$$

SAMPLE INPUT



```
1
6 2 5
```

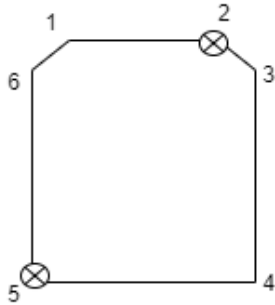
?

## SAMPLE OUTPUT

4

9  
LIVE EVENTS

## Explanation



The number of triangles which satisfy the property are 4 -  $\triangle 136$ ,  $\triangle 146$ ,  $\triangle 346$  and  $\triangle 134$

**Time Limit:** 1.0 sec(s) for each input file.

**Memory Limit:** 256 MB

**Source Limit:** 1024 KB

**Marking Scheme:** Score is assigned if any testcase passes.

**Allowed Languages:** Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

## CODE EDITOR

Save

C (gcc 5.4.0)



```

1  /*
2  // Sample code to perform I/O:
3  #include <stdio.h>
4
5  int main(){
6      int num;
7      scanf("%d", &num);           // Reading input from STDIN
8      printf("Input number is %d.\n", num); // Writing output to STDOUT
9  }
10
11 // Warning: Printing unwanted or ill-formatted data to output will cause the test
12 // cases to fail
13
14 // Write your code here
15

```

?

9


1:1 vscc

LIVE EVENTS


☒ Provide custom input

COMPILE & TEST

SUBMIT

 **Tip:** You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating: ★★★★★

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