01 : 06 : 01 : 04
DAY HRS MIN SEC

9 LIVE EVENTS

Codathon - Inter NIT Coding Contest 2018

LIVE

Jan 15, 2018, 06:00 PM IST - Jan 22, 2018, 06:00 PM IST

Day 6 - The Simple Problem

Max. Marks: 100

There are **N** points in an **X-Y** plane. The coordinates of ith point is (X_i,Y_i).

We can form triangles using a set of any 3 points.

The question is very simple.

Find the sum of area of all the triangles formed using the points from the above set. Let this sum be called **S**.

Among these, Find the sum of area of those triangles whose any of the sides are vertical. Let this sum be called **s**.

We say Result **R = S-s**

INPUT

The first line of input consists of **T** denoting number of test cases.

The first line of each test case consists of a single integer **N** denoting number of points.

Each of the next **N** lines consists of **2** space separated integers **Xi and Yi** i.e. the coordinates of the corresponding point.

All the coordinates are distinct.

OUTPUT

For each test case, output a single real number i.e. the value R.

Each of the output should exactly contain 9 digits after decimal.

CONSTRAINTS

$1 \leq T \leq 30$

?

$1 \le N \le 2500$

$1 \le X_i \le 4$

$1 \le Y_i \le 10^6$

SAMPLE INPUT

```
1
5
1 1
4 1
2 7
3 1
2 1
```

SAMPLE OUTPUT

```
18.000000000
```

Explanation

Possible valid triangles having non zero area:

{(1,1), (2,7), (3,1)} Area=6

{(1,1), (2,7), (4,1)} Area=9

{(3,1), (2,7), (4,1)} Area=3

Total Area=18

Time Limit:	2.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Marks are awarded if any testcase passes.
Allowed Languages:	C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Visual Basic

CODE EDITOR

Enter your code or Upload your code as file. Save C (gcc 5.4.0)

```
1 /*
2 // Sample code to perform I/O:
3
```

```
4  scanf("%s", name);              // Reading input from STDIN
5  printf("Hi, %s.\n", name);      // Writing output to STDOUT
6
7  // Warning: Printing unwanted or ill-formatted data to output will cause the tes
8  */
9
10 // Write your code here
11
```

1:1

Provide custom input

Press Ctrl-space for autocomplete suggestions.

COMPILE & TEST SUBMIT

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