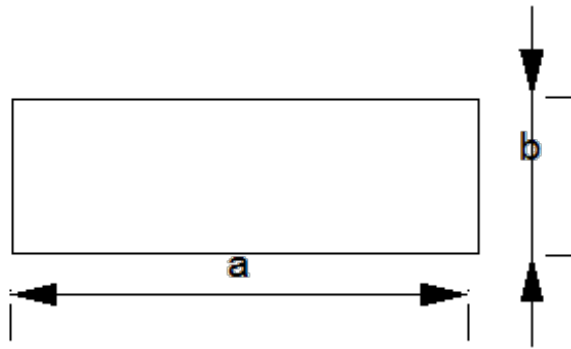


Geometric rectangular



Enter the two edges of the rectangular that named a and b . Calculate the *perimeter* and *area* of the rectangular.

Input

The first line of the input consist of a single integer number t which determines the number of tests.

In each of next t lines will contain two edges a and b that separated by a space.

Constraints

- $0 < t \leq 1\ 000$

Output

For each test case print out *perimeter* and *area* that separated by a space. Separate your answers with a new line character.

Example

Input:

```
7
0 9
2 5
1 -5
10 7
9 4
-9 4
12 20
```

Output:

```
the length of rectangular's edges must be greater than 0
14 10
the length of rectangular's edges must be greater than 0
34 70
26 36
the length of rectangular's edges must be greater than 0
64 240
```

