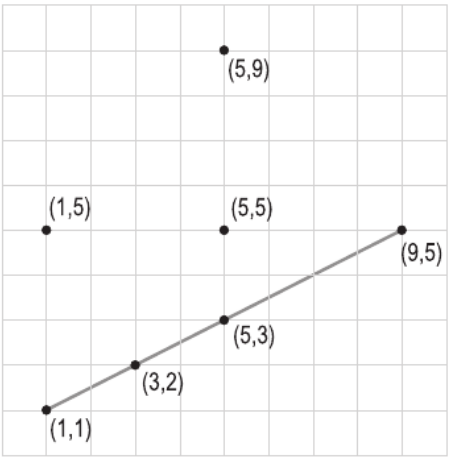
4089 Incidental Points



Unlike a straight line, a *straight segment* between two points P_1, P_2 (normally written as $\overline{P_1P_2}$) is a line that links the two points *but doesn't extend beyond them.* A third point P_3 is said to be incident to $\overline{P_1P_2}$ iff P_3 lies on the straight line and between the points P_1 and P_2. $\overline{P_1P_2}$ is said to include P_3. By definition, P_1 and P_2 are included in $\overline{P_1P_2}$.

Write a program to find the segment that includes the most number of given points.

Input

Your program will be tested on one or more test cases. Each test case includes a set of two or more unique points, where the Cartesian coordinates of each point is specified on a separate line using two integers X and Y where $0 \leq |X|, |Y| < 1,000,000$. No test case has more than 1000 points. An input line made of two or more '-' (minus signs) signals the end of a test case. An extra input line of two or more '-' (minus signs) follow the last test case.

Output

For each test case, output the result on a single line using the following format:

$k.\sqcup n$

Where k is the test case number (starting at 1,) $\sqcup$ is a single space, and n is the number of points on the segment.

Sample Input

```
1 1
1 5
5 9
9 5
5 5
3 2
5 3
---
1 5
5 1
1 1
5 5
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```

Sample Output

```
1. 4
```

```
2. 2
```