LAB5

Question 1:

In this question, you will be given *n* (*n*<=10,000) points with their integer coordinates (*xi*,*yi*) (0<=*xi*,*yi*<=1000,000). And you need to find the number of rectangles whose vertexes are some of these points. Here are some requirements of the rectangles:

1. The vertexes are fours points among these given *n* points.
2. Its sides should be parallel to the coordinate axis.
3. Its sides can't cover other points. Hence, the whole rectangle only covers 4 points in these n points.

Input:

First line: *n*

2nd-(n+1)th line: *xi* *yi*

Output:

First line: The number of rectangles.

Sample:

Input:

```
7
1 1
1 2
1 3
2 1
2 2
3 2
3 3
```

Output:

```
1
```

To make your life easier, do not output anything when you are doing the input. In this way, you can copy the input from a txt file. No one wants to input 10000 coordinates by hand.

Question 2:

A fraction *a/b* (0<*a*<*b*<1,000) can be expressed by the sum of some fractions *1/n*, where *n* is a positive integer. But there are many ways to express the fraction in this way, so here we define a best expression:

1. All the *n* are different.
2. The number of *n* is smaller, the expression is better.
3. When the number of *n* is the same, the largest *n* is smaller, the expression is better.

Example:

19/45=1/3 + 1/12 + 1/180,
19/45=1/3 + 1/15 + 1/45,
19/45=1/3 + 1/18 + 1/30,
19/45=1/4 + 1/6 + 1/180,
19/45=1/5 + 1/6 + 1/18.

In these expressions, 19/45=1/5+1/6+1/18 is the best.

Input:

First line: *a b*

Output:

First line: The *n*s of the best expression, from the smallest to the largest.

Sample:

Input:

19 45

Output:

5 6 18