Unlimited Prosperity

Time Limit : 2s

Chinese Zodiac is based on a twelve-year cycle and each year is associated with an animal. The twelve animals in order are: Rat, Ox, Tiger, Rabit, Dragon, Snake, Horse, Goat, Monkey, Rooster, Dog, and Pig. This year (2017) is the year of Rooster. Mr. Oski believes that we should nurture animals associated with the zodiac of that year to bring lucks. He managed to do this for 11 out of 12 years (can you guess why he can't do the remaining one?).

Thus, this year, Mr. Oski nurtures chickens. What counts is the rooster, but it is hard to raise a flock without hens. In each morning, Mr. Oski leaves the chickens outside of the barn (he wants to teach "freedom" to the chickens), and calls them back to the barn at night.

Unknown to many, Mr. Oski is a good yodeller. When he yodels, all chickens within the radius of R from Mr. Oski will come back to the barn by themselves. Unfortunately, Mr. Oski can only yodel once in a day, and while he yodels, he cannot move. Mr. Oski wants to minimize the number of chickens which remains outside after he finished yodelling. In other words, he wants to maximize the number of chickens which can be reached by his yodel.

Rest assure, the chickens do not move much (in fact, they just stand still) throughout the day. Each chicken location can be represented with a Cartesian coordinate of (X_i, Y_i). There can be more than one chicken in one location (I'll let the reader imagine how the chickens do that). Also, it is possible for Mr. Oski to have the same coordinate with one of the chicken.

Your task as the observer is to find the maximum number of chickens which can be reached by Mr. Oski's yodel (and output which chicken is reached). We do not care with the location of Mr. Oski in order to do that.

The first line contains an integer ($1 \le N \le 500$) and a floating-point number ($1.0 \le R \le 100{,}000.0$) denoting the number of chickens and Mr. Oski yodel's radius. The next N lines each contains two floating-point numbers ($-100{,}000.0 \le X_i, Y_i \le 100{,}000.0$) denoting the coordinate of the i^{th} chicken.

Output

Output the maximum number of chickens which can be reached by Mr. Oski's yodel, followed by the chicken (which are reached), sorted in ascending order. If there is more than one set of reachable chicken which have the same maximum size, output the set which lexicographically smaller.

Sample Input

```
9 4
2 9
5 9
8 10
11 7
10 3
5 1
6 4
2 5
7 6
```

Sample Output

```
6
1
2
3
7
8
9
```