C. The Closest Pair

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Currently Tiny is learning Computational Geometry. When trying to solve a problem called "The Closest Pair Of Points In The Plane", he found that a code which gave a wrong time complexity got Accepted instead of Time Limit Exceeded.

The problem is the follows. Given n points in the plane, find a pair of points between which the distance is minimized. Distance between (x_1, y_1) and (x_2, y_2) is .

The pseudo code of the unexpected code is as follows:

```
input n
for i from 1 to n
    input the i-th point's coordinates into p[i]
sort array p[] by increasing of x coordinate first and increasing of y coordinate second
d=INF        //here INF is a number big enough
tot=0
for i from 1 to n
    for j from (i+1) to n
        ++tot
        if (p[j].x-p[i].x>=d) then break    //notice that "break" is only to be
                                            //out of the loop "for j"
        d=min(d,distance(p[i],p[j]))
output d
```

Here, tot can be regarded as the running time of the code. Due to the fact that a computer can only run a limited number of operations per second, tot should not be more than k in order not to get Time Limit Exceeded.

You are a great hacker. Would you please help Tiny generate a test data and let the code get Time Limit Exceeded?

Input

A single line which contains two space-separated integers n and k ($2 \le n \le 2000$, $1 \le k \le 10^9$).

Output

If there doesn't exist such a data which let the given code get TLE, print "`no solution`" (without quotes); else print n lines, and the i-th line contains two integers x_i, y_i ($|x_i|, |y_i| \le 10^9$) representing the coordinates of the i-th point.

The conditions below must be held:

- All the points must be distinct.
- $|x_i|, |y_i| \le 10^9$.
- After running the given code, the value of tot should be larger than k.

Examples

input
4 3

output
0 0 0 1 1 0 1 1

input
2 100
output
no solution