

The Defense Fence

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 1024 megabytes

TankEngineer's agent program revealed that the Great General of ALU(the Anti Lolicon United) liuq901 will pillage the peaceful village you and your imaginary girlfriend live in. You feel very worried about this and decided to build a defense fence to protect your village and your imaginary girlfriend.

To simplify the problem, the village is regarded as a plane and a fence can be seen as a closed curve without self-crossing or self-touching on the plane. To make it defensive, you decide to make it electric, thus the fence you built must contain a positive pole and a negative pole which are connected to the power grid.

Because of limited time, you have to use the only existing poles - a positive pole located at $(0,0)$ and a negative pole at $(d,0)$. Furthermore, the power supply is also limited, so you can only build your fence by connecting some pairs of points from the set consists of the poles and n other hubs in your village. It is guaranteed that no two points coincide with each other.

There is another restriction, the euclidean distance of any pair of points on the fence can be no larger than d or the fence wouldn't have enough power to stop the army of liuq901.

You want to protect as much area in your village as possible. Calculate the maximum area your fence can cover.

Input

The first line contains two integers n, d ($1 \leq n \leq 300, 1 \leq d \leq 10^9$), the number of hubs and the maximum distance allowed.

Each of the next n lines contains two integers x_i, y_i ($-10^9 \leq x_i, y_i \leq 10^9$), the position of the i -th hub.

Output

Print an integer in a single line - the maximum area multiplied by 2.

Examples

standard input	standard output
2 10 5 6 5 -4	100
2 10 5 6 5 -5	60
2 10 1 5 5 0	0