

Problem B. K-collinear Line

Time limit 2000 ms

Mem limit 1048576 kB

Problem Statement

You are given N points in the coordinate plane. For each $1 \leq i \leq N$, the i -th point is at the coordinates (X_i, Y_i) .

Find the number of lines in the plane that pass K or more of the N points.

If there are infinitely many such lines, print **Infinity**.

Constraints

- $1 \leq K \leq N \leq 300$
- $|X_i|, |Y_i| \leq 10^9$
- $X_i \neq X_j$ or $Y_i \neq Y_j$, if $i \neq j$.
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
N K
X1 Y1
X2 Y2
⋮
XN YN
```

Output

Print the number of lines in the plane that pass K or more of the N points, or **Infinity** if there are infinitely many such lines.

Sample 1

Input	Output
5 2 0 0 1 0 0 1 -1 0 0 -1	6

The six lines $x = 0$, $y = 0$, $y = x \pm 1$, and $y = -x \pm 1$ satisfy the requirement. For example, $x = 0$ passes the first, third, and fifth points.

Thus, 6 should be printed.

Sample 2

Input	Output
1 1 0 0	Infinity

Infinitely many lines pass the origin.

Thus, **Infinity** should be printed.