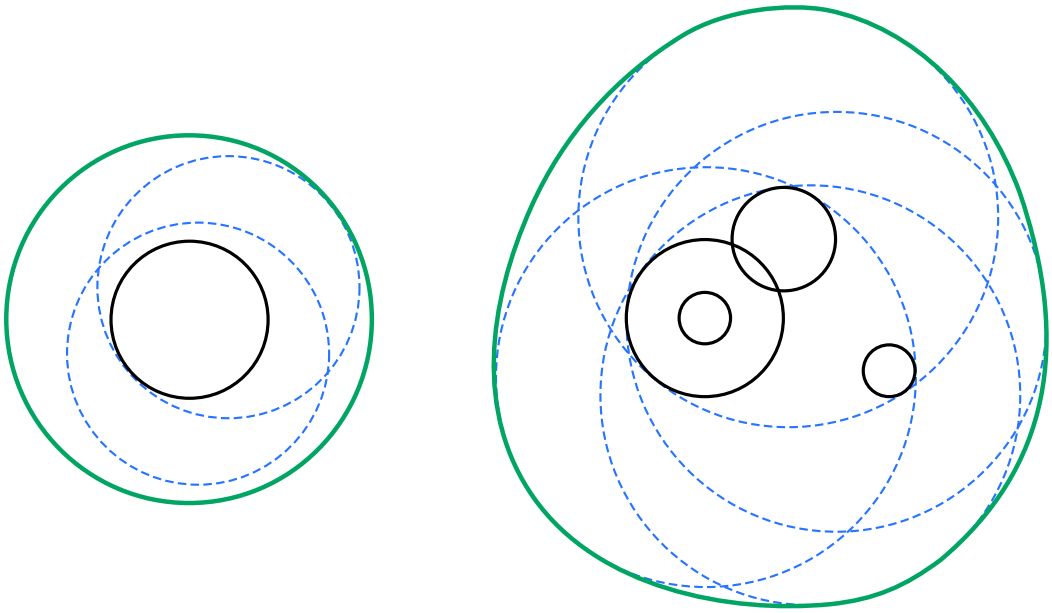
Problem F. Find The Length

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	1024 mebibytes

Given n black circles on the plane. Alice plans to draw a blue circle of radius R such as no part of black circle is outside that circle. But before Bob plans to draw a green closed curve such as for any possible position of the blue circle there will be no part of the blue circle outside the green curve.

Your task is to find the minimal length of the green curve. Note that the black circles may touch the blue circle or even the green curve, and the blue circle may touch the green curve.



Input

The first line of the input contains two integers N ($1 \le N \le 100$) and R ($1 \le R \le 1000$) — the number of the black circles and the radius of the blue circle, respectively.

Each of the following N lines contains three space-separated integers x_i, y_i and r_i. First two of those integers are the coordinates of the center of i-th black circle ($-500 \le x_i, y_i \le 500$). Third integer is the radius of that circle ($1 \le r_i < \min\{R, 500\}$). No two black circles coincide.

You may assume that if we will change R by no more than 10^{-7}, then answer changes no more than by 10^{-3}.

Output

If it is impossible to draw the blue circle, print "`Impossible`". Otherwise print one real number — the minimal possible length of the green curve, with absolute or relative error 10^{-4} or better.

Examples

standard input	standard output
1 5 0 0 3	43.982297150257
4 8 -1 -1 3 -1 -1 1 6 -3 1 2 2 2	69.138911696387
2 10 -8 1 3 8 2 4	Impossible

Note

At the pictures, there are samples 1 and 2. The possible places fot the blue circle are denoted by the dotted line.