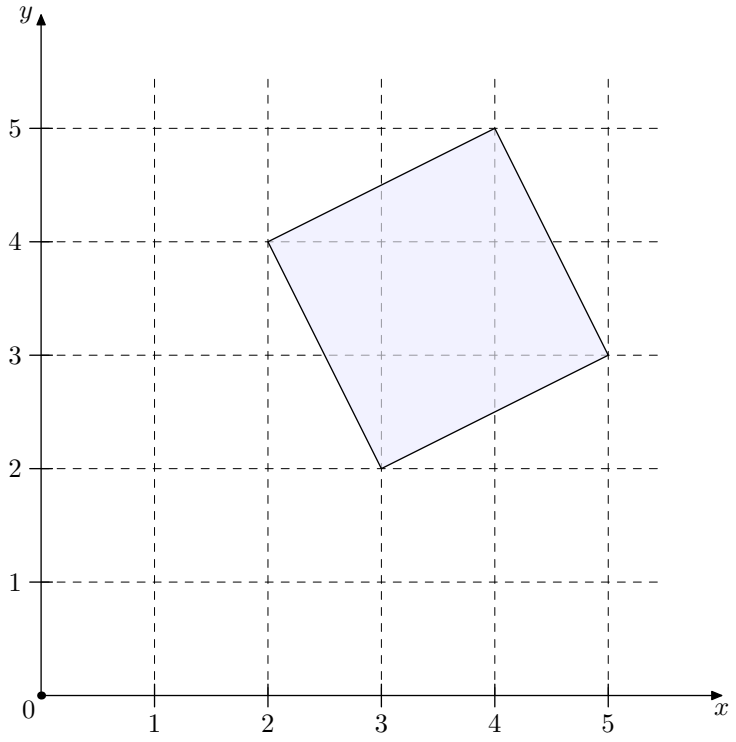
Problem I. Integer Square

Time limit: 2 seconds
Memory limit: 512 megabytes

Iris likes to draw different shapes on a grid paper. Her favorite shape is a square. She has recently tried to draw a square with area s, but since she uses a grid paper, she wants all the vertices of the square to have integer coordinates.



Can you help her find such a square?

Input

The input contains a single integer s ($1 \le s \le 1000$).

Output

If it is possible to construct the required square, output four pairs of integers: the coordinates of the vertices of the square, in any order. All coordinates should be in the range from -10^9 to 10^9. If there are multiple answers, output any of them.

If it is impossible to construct the required square, print "`Impossible`".

Examples

standard input	standard output
5	2 4 3 2 4 5 5 3
3	Impossible