The Magic Square

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	256 megabytes

In order to save the world from the evil Anti Lolicon United and make your imaginary girl friend(who is a very kawaii loli) happy, a magic amulet of pure LoliLoli magic power must be crafted.

According to an ancient scroll, such a magic amulet should be in the shape of a square and be composed of exactly n gems not necessarily of different sizes. Each of the gems should be a square itself and its edges should parallel to the edges of the amulet. The figure part of the scroll has been worn out and you have to overcome this difficulty with your love for Loli.

Input

The first line contains a single positive integer n ($n \leq 100$), which is the number of the gems you should use.

Output

If there is no solution, print a single line of "Impossible"(without quotes).

Otherwise, print "Possible"(without quotes) in the first line and a positive integer $m \leq 1000$, which is the size of the amulet you come up with in the second line. Followed by m lines of m positive integers separated by a single space. c_{ij}, the j-th integer in the i-th following line represents the id of the gem this square belongs to. $c_{ij} \leq n$ must hold and for each $1 \leq k \leq n$, those with $c_{ij} = k$ should form a connected square of some integer size.

Examples

standard input	standard output
2	Impossible
4	Possible 2 1 2 3 4

Note

Here is a possible solution for $n = 21$.