Making a Tangram

Time limit: *2500 ms*
Memory limit: *256 MB*

In this challenge you are to create a beautiful tangram from a board of $\mathrm{N} \times \mathrm{N}N \times N$ cells. The board will be cut into $\mathrm{N}N$ tangram pieces. Each piece consists of exactly $\mathrm{N}N$ cells that are 4-connected (up, down, left, right). All the tangram pieces shall together fit into the $\mathrm{N} \times \mathrm{N}N \times N$ board without extra or empty cells. To make the tangram fun, each piece will have a distinct color, and no two pieces shall be of a same shape.

Two tangram pieces are said to have a same shape if one can be rotated clockwise or counterclockwise to look exactly the same as the other. For example, the following four pieces are the same:

```
 X     X    XX       X
XX    XXX    XX   XXX
 XX   X      X     X
```

These two pieces have different shapes:

```
  X  X
XXX  XXX
```

A tangram piece is allowed to have holes, such as:

```
XXX
X X
XXX
```

Now it is up to you to design the tangram in whatever way you like!

Standard input

The first line of the input has a single integer $\mathrm{T}T$, the number of test cases.

Each of the next $\mathrm{T}T$ lines has one test case with a single integer $\mathrm{N}N$, the size of the board.

Standard output

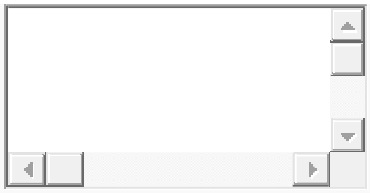
For each test case, output any tangram design that satisfies the requirement. The output has $\mathrm{N}N$ lines, each with $\mathrm{N}N$ characters. Mark each tangram piece with any unique character from the alphabet: lowercase letters `a`-`z`, uppercase letters `A`-`Z`, or digits `0`-`9`. Any valid tangram will be accepted.

If there is no way to cut the board to make the tangram, output `impossible` on a single line.

Constraints and notes

- $1 \leq \mathrm{T} \leq 20$ $1 \leq T \leq 20$

- 2 \leq N \leq 622≤*N*≤62

Input	Output	Explanation
2 5 3	XXXTr XTTTr XTErr mmEEr mmmEE impossible	In the first test case N = 5*N*=5, note that you may pick any characters from the alphabet to col In the second test case N = 3*N*=3, only these two types pieces can be made. Therefore you car  XX X XXX