Write a program to print all the ways to place $n$ queens on an $n \times n$ chessboard so that no queen threatens another queen.

**Input**

Input consists of a natural number $n > 0$.

**Output**

Print all the ways to put $n$ queens on an $n \times n$ chessboard so that no queen threatens another queen. The queens must be marked with a ’Q’, and the empty positions with a dot. Print an empty line after each board.

**Information about the checker**

You can print the solutions to this exercise in any order.

**Sample input 1**

```
4
```

**Sample output 1**

```
.Q..
..Q
Q..
..Q.
..Q.
Q...
...Q
.Q..
```

**Sample input 2**

```
3
```

**Sample output 2**

```
```

**Problem information**

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