Straight Line Spiral Pattern (Act 3)

Print a straight line spiral pattern as shown in the example below. Please use the * (asterisk) and . (dot) characters.

Input

You are given *t* - the number of test cases and for each of the test cases one integer: *s*, 3<s<100 - the size of the shape.

Output

For each of the test cases output the requested pattern. Use one line break in between successive patterns.

Example

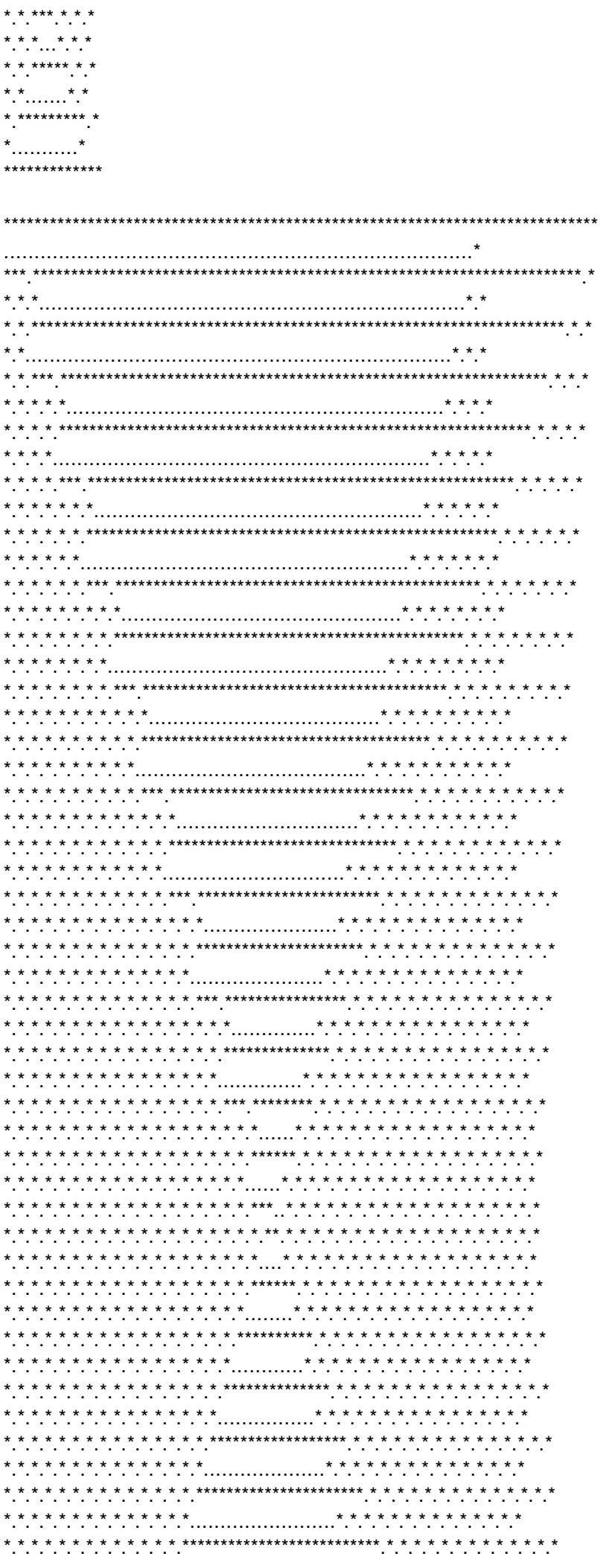
Input:
5
4
5
11
13
78

Output:
```
****
...*
*..*
****

*****
....*
***.*
*...*
*****

***********
..........*
***.*****.*
*.*.*...*.*
*.*.***.*.*
*.*...*.*.*
*.*.***.*.*
*.*.....*.*
*.*******.*
*.........*
***********

*************
............*
***.*******.*
*.*.*.....*.*
*.*.*****.*.*
*.*.....*.*.*
```



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