Problem 6: Spiraling Out of Control
13 Points

Problem ID: `spiral`
Rank: 2

Introduction

Who doesn't like a good spiral? Whether you draw them from the outside-in or inside-out (or some other way like a monster), everyone can appreciate a neat, even swirl.

Your task is to create a program that will output a spiral with the given amount of loops.

Program Input

The first line of the input from STDIN will contain a positive integer `T` denoting the number of test cases that follow. Each test case will consist of single positive integer `n` denoting the number of loops the spiral must have.

Example Input:

```
3
1
2
3
```

Program Output

For each test case, your program should output a spiral based on the following criteria:

- The spiral must consist of `@` characters and begin at the top left corner, looping clockwise.
  - A loop is completed when an upper edge of the spiral is drawn within a perimeter of `@` characters.
- There must be a one-character margin between adjacent edges of the spiral.
- Each test case output should be separated by a blank line.

Example Output:

```
@@@@@
     @
@@@  @
@    @
@@@@@

@@@@@@@@@@
          @
@@@@@@@  @
@       @ @
@ @@@  @ @
@ @    @ @
@ @@@@@ @
@         @
@@@@@@@@@@

@@@@@@@@@@@@@
              @
@@@@@@@@@@@@ @
@           @ @
@ @@@@@@@ @ @
@ @       @ @ @
@ @ @@@ @ @ @
@ @ @   @ @ @
@ @ @@@@@ @ @
@ @         @ @
@ @@@@@@@@@@ @
@             @
@@@@@@@@@@@@@
```

Problem Constraints

$T \leq 150$

$n \leq 150$

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