Problem 6: Fractals Against Programmability
7 Point(s)

Problem ID: `fractal`
Rank: `2`

Introduction

It turns out that building a real house of cards with real cards bought with real money is too expensive, and building a plain digital house of cards is not very impressive, so you decide to build a digital house of cards that's cool and recursive instead!

Problem Statement

Output a fractal house of cards with $\mathbf{N}$ layers.

The simplest fractal house of cards with 1 layer consists of just two cards leaning on each other in a single line, drawn with a forward slash `/` and a backslash `\`:

```
/\
```

To construct a fractal house of cards with k layers where k is a power of 2, build three fractal houses of cards with k / 2 layers in an equilateral triangle pattern by inserting spaces so that each house is aligned correctly. For example, here is a fractal house of cards with 8 layers:

```
       /\
      /\/\
     /\  /\
    /\/\/\/\
   /\      /\
  /\/\    /\/\
 /\  /\  /\  /\
/\/\/\/\/\/\/\
```

See the sample test cases below for more examples.

Input Format

The first line of input contains a positive integer $\mathbf{T}$ denoting the number of test cases that follow. Each test case consists of a single line containing a positive integer $\mathbf{N}$ denoting the number of layers in the fractal house of cards you're trying to build.

Output Format

For each test case, output the following:

- The first $\mathbf{N}$ lines should contain the fractal house of cards
  - Each line should contain the forward slashes `/`, backslashes `\`, and spaces for each layer
  - The house is allowed to have trailing spaces on the right side of each layer
- The final line should be blank to separate individual test cases

Problem Constraints

$1 \le \mathbf{T} \le 100$

$1 \le \mathbf{N} \le 256$

$\mathbf{N}$ is a power of 2.

The sum of $\mathbf{N}^2$ across all test cases in an input does not exceed 10^5.

Sample Test Cases

Sample Input

```
5
1
2
4
8
16
```

Sample Output