





Write a program that will determine the number of such distinct routes given the number of streets.

#### INPUT FORMAT

The input text consists of one or more lines, each containing a single number from 1 to 1000 inclusive – the number of parallel streets. A single '#' on a line by itself indicates the end of input.

#### SAMPLE INPUT:

```
1
2
3
4
10
30
#
```

#### OUTPUT FORMAT

There is a single line of output for each input value. Each output line consists of the number of streets followed by a colon (':') and a space, followed by the number of possible distinct routes corresponding to that many streets. Each number is displayed as a decimal number, with commas (',') used as separators between groups of 3 digits, counting from the right.

#### SAMPLE OUTPUT:

```
1: 0
2: 2
3: 4
4: 12
10: 3,034
30: 374,605,036,706
```