Sounds of Animatronics

Fall 2023 Programming Fundamentals Labwork 3
Difficulty: <u>Medium</u>

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Time Limit: 1s
Memory Limit: 256MB

You are an expert forensic analyst, trying to decode the sounds that eminates from a bunch of old animatronic robots found in an abandoned pizzeria. Turns out, you can communicate with the animatronics by using an unique set of sound waves.

There are 10 sound waves, each corresponding to a number from 0 to 9. The sound waves get longer the higher the number is. The sound waves are encoded with the `'>'` symbol. More `'>'` symbols in a line means a higher tone.

The numbers can then be arranged in such a way to convey a message to the animatronics, but that's a story for another time…

The sound wave for the number 0 is as such:
```
>>
```

The sound wave for the number 1 is as such:
```
>>
>>>
>>
```

The sound wave for the number 2 is as such:
```
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```

Notice that the highest tone in each number corresponds to a pattern. The pattern for the highest tone is (2, 3, 5, …), which corresponds to a fibonacci sequence.

Please create a code in which, given a number `num` from 0 to 9, prints the sound waves of that number to communicate to the animatronics!

Constraints:

```
0 <= num <= 9
```

The inputs and outputs are given on the next page. Please do pay attention to how the pattern evolves as the number increases. The pattern is created using **recursion.**

Attempts to use any logic other than recursion for the pattern will result in <u>0 score</u>

Input	0	1	2	3	4	5
Output	>>	>>	>>	>>	>>	>>
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