Map and Lambda Function ★

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Let's learn some new Python concepts! You have to generate a list of the first N fibonacci numbers, 0 being the first number. Then, apply the map function and a lambda expression to cube each fibonacci number and print the list.

Concept

The `map()` function applies a function to every member of an iterable and returns the result. It takes two parameters: first, the function that is to be applied and secondly, the iterables.

Let's say you are given a list of names, and you have to print a list that contains the length of each name.

```
>> print (list(map(len, ['Tina', 'Raj', 'Tom'])))
[4, 3, 3]
```

Lambda is a single expression anonymous function often used as an inline function. In simple words, it is a function that has only one line in its body. It proves very handy in functional and GUI programming.

```
>> sum = lambda a, b, c: a + b + c
>> sum(1, 2, 3)
6
```

Note:

Lambda functions cannot use the return statement and can only have a single expression. Unlike def, which creates a function and assigns it a name, lambda creates a function and returns the function itself. Lambda can be used inside lists and dictionaries.

Input Format

One line of input: an integer N.

Constraints

$0 \leq N \leq 15$

Output Format

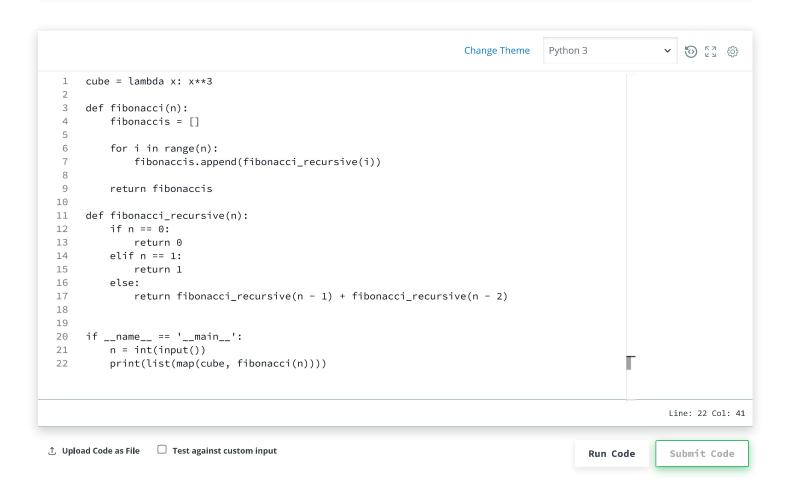A list on a single line containing the cubes of the first N fibonacci numbers.

Sample Input

```
5
```

Sample Output

```
[0, 1, 1, 8, 27]
```

Explanation

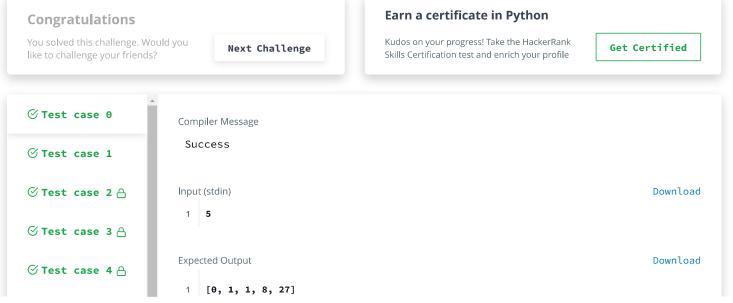The first 5 fibonacci numbers are $[0, 1, 1, 2, 3]$, and their cubes are $[0, 1, 1, 8, 27]$.

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```python
1    cube = lambda x: x**3
2
3    def fibonacci(n):
4        fibonaccis = []
5
6        for i in range(n):
7            fibonaccis.append(fibonacci_recursive(i))
8
9        return fibonaccis
10
11   def fibonacci_recursive(n):
12       if n == 0:
13           return 0
14       elif n == 1:
15           return 1
16       else:
17           return fibonacci_recursive(n - 1) + fibonacci_recursive(n - 2)
18
19
20   if __name__ == '__main__':
21       n = int(input())
22       print(list(map(cube, fibonacci(n))))
```

Line: 22 Col: 41

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Python
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⊘ **Test case 0**

⊘ **Test case 1**

⊘ **Test case 2** 🔒

⊘ **Test case 3** 🔒

⊘ **Test case 4** 🔒

Compiler Message

  Success

Input (stdin)   Download

1   **5**

Expected Output   Download

1   **[0, 1, 1, 8, 27]**

⊘ **Test case 5** 🔒

⊘ **Test case 6** 🔒