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Please consider this programming problem:  
Given a positive integer  $N$ . Calculate the Fibonacci series till the number  $N$ . If  $N$  is a part of the series, include  $N$  as well.  
Provide an example solution for the problem in the Python language.

Vorschläge anzeigen ▾ 🔊



Python

```
def fibonacci_series(n):  
    """Calculates the Fibonacci series up to the given number N.  
  
    Args:  
        n: A positive integer.  
  
    Returns:  
        A list containing the Fibonacci series up to N.  
        """  
  
    fib_series = [0, 1]  
    while fib_series[-1] <= n:  
        fib_series.append(fib_series[-1] + fib_series[-2])  
    return fib_series[:len(fib_series) - 1]  
  
# Example usage:  
n = 15  
result = fibonacci_series(n)  
print(result)
```

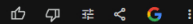
Verwende den Code [mit Vorsicht](#)

This Python code defines a function `fibonacci_series` that takes a positive integer `n` as input and returns a list containing the Fibonacci series up to `n`.

Here's how the function works:

- 1. Initialization:** The function starts by creating a list `fib_series` containing the first two Fibonacci numbers, 0 and 1.
- 2. Series Calculation:** The `while` loop continues as long as the last element in `fib_series` is less than or equal to `n`. In each iteration, the next Fibonacci number is calculated by adding the last two elements of the series and appending it to `fib_series`.
- 3. Return Value:** After the loop terminates, the function returns the `fib_series` list, excluding the last element if it's greater than `n`.

In the example usage, the function is called with `n = 15`, and the resulting Fibonacci series is printed.



Prompt hier eingeben



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