

Consider the following 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.

Please provide a solution for this problem in the R language.

Vorschläge anzeigen ▾



#### Code-Snippet

```
fibonacci_series <- function(N) {  
  # Initialize the series with the first two terms  
  fib_series <- c(0, 1)  
  
  # Generate the series until the next term exceeds N  
  while (fib_series[length(fib_series)] <= N) {  
    next_term <- fib_series[length(fib_series)] + fib_series[length(fib_series) - 1]  
    fib_series <- c(fib_series, next_term)  
  }  
  
  # If N is in the series, include it  
  if (N %in% fib_series) {  
    fib_series <- c(fib_series, N)  
  }  
  
  return(fib_series)  
}  
  
# Example usage  
N <- 10  
result <- fibonacci_series(N)  
print(result)
```

Verwende den Code [mit Vorsicht](#).

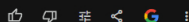


This R code defines a function `fibonacci_series` that takes a positive integer  $N$  as input and returns the Fibonacci series up to that number, including  $N$  if it's part of the series.

Here's how the code works:

- Initialization:** The function initializes a vector `fib_series` with the first two Fibonacci numbers (0 and 1).
- Series Generation:** The `while` loop iteratively generates the next Fibonacci number by adding the previous two terms. The loop continues until the next term exceeds  $N$ .
- Inclusion of  $N$ :** If  $N$  is found in the series, it's added to the end.
- Return:** The function returns the final `fib_series` vector, which contains the Fibonacci numbers up to  $N$ .

The example usage demonstrates how to call the function with a specific value of  $N$  and print the resulting Fibonacci series.



Prompt hier eingeben



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