



You are a tutor for an entry-level programming course at a university.



Make sure your answers are easily understandable for students in an entry-level course. Therefore explain all concepts that are used.

Can you help in fixing the following R code while making as few changes as possible? Below I first provide the problem description and then the current buggy program.

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.

Buggy Program:

```
fibonacci_index <- function(number) {  
  if (number < 0) {  
    stop("Keine gültige Fibonacci-Zahl")  
  }  
  
  index <- 1  
  fib <- 1  
  f1 <- 1  
  f2 <- 0  
  
  while (fib <= number) {  
    if (fib = number) {  
      return(index)  
    }  
    f1 <- fib  
    fib <- f1 + f2  
    f2 <- f1  
    index <- index + 1  
  }  
  
  stop("Keine gültige Fibonacci-Zahl")  
}  
  
number <- as.numeric(readline(prompt = "Bitte geben Sie eine Zahl ein: "))  
tryCatch({  
  index <- fibonacci_index(number)  
  cat("Die Zahl ist Zahl", index, "der Fibonacci-Folge.\n")  
}, error = function(e) {  
  cat(e$message, "\n")  
})
```

Can you fix the above buggy program? Modify only the code within the function. Make sure that you make minimal possible changes needed to fix the program.

Vorschläge anzeigen ▾



I'd be glad to help you fix the buggy R code for calculating the Fibonacci series:

Code-Snippet

```
fibonacci_index <- function(number) {  
  if (number < 0) {  
    stop("Keine gültige Fibonacci-Zahl")  
  }  
  
  index <- 1  
  fib <- 1  
  f1 <- 1  
  f2 <- 0  
  
  while (fib <= number) {  
    if (fib == number) {  
      return(index)  
    }  
    f1 <- fib  
    fib <- f1 + f2  
    f2 <- f1  
    index <- index + 1  
  }  
  
  stop("Keine gültige Fibonacci-Zahl")  
}
```

Verwende den Code [mit Vorsicht](#).



The issue in the original code lies in the condition `if (fib = number)`. This assignment operator (single equal sign) is incorrect and should be replaced with the comparison operator (double equal sign) to check if `fib` is equal to `number`.

Here's the corrected code:

Code-Snippet

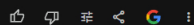
```
fibonacci_index <- function(number) {  
  if (number < 0) {  
    stop("Keine gültige Fibonacci-Zahl")  
  }  
  
  index <- 1  
  fib <- 1  
  f1 <- 1  
  f2 <- 0  
  
  while (fib <= number) {  
    if (fib == number) {  
      return(index)  
    }  
    f1 <- fib  
    fib <- f1 + f2  
    f2 <- f1
```

```
index <- index + 1
}
stop("Keine gültige Fibonacci-Zahl")
}
```

Verwende den Code [mit Vorsicht](#).



With this correction, the code will now correctly determine the index of a given number in the Fibonacci series.



Prompt hier eingeben



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