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Currently I'm working on a R programming problem. The current program below contains some bugs. Can you help in fixing these bugs with as few changes as possible? Below I first provide the problem description and then the 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.

To fix the bugs in the provided R code, we can make a few minimal changes within the 'fibonacci_index' function. Here's the corrected version of the function:

```
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) { # Corrected the assignment operator (=) to comparison operator (==)
      return(index)
    }
    f2 <- f1 # Corrected the order of updating f1 and f2
    f1 <- fib
    fib <- f1 + f2
    index <- index + 1
  }

  stop("Keine gültige Fibonacci-Zahl")
}
```

Explanation of Changes:

- 1. Comparison Operator:
 - The original code used 'if (fib = number)' to check if the current Fibonacci number equals the input number. This should be a comparison, not an assignment. So, we change '=' to '=='.

4. Order of Variable Updates:

- The original code had an issue with the order of updating `f1` and `f2`. The correct sequence should be to update `f2` first with the value of `f1` and then update `f1` with the value of `fib`. This ensures that the Fibonacci sequence is generated correctly.

These minimal changes should fix the bugs in the program and allow it to correctly determine whether the given number is part of the Fibonacci sequence and, if so, return its position in the sequence.

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