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I'm working on a Python programming problem. The current program below is not working well. Can you help by giving a hint? 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:

```
class P2_Python_buggy:

    def fibonacci_index(number):
        if number < 0:
            raise ValueError("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 += 1

        raise ValueError("Keine gültige Fibonacci-Zahl")

    def main():
        number = int(input("Bitte geben Sie eine Zahl ein!"))

        try:
            print(f"Die Zahl ist Zahl {P2_Python_buggy.fibonacci_index(number)} der Fibonacci-Folge.")
        except ValueError as e:
            print(e)

if __name__ == "__main__":
    P2_Python_buggy.main()
```

(1) Can you describe the bug(s) in this program and the required fixes?  
(2) Can you provide a concise single-sentence hint about one bug in this program?  
The hint should not be too detailed as I want to think about the fixes by myself.  
However, the hint should not be too abstract, as I need some help.

Vorschläge anzeigen ▾ 🔊



### Analyzing the Buggy Program

#### Problem Description

The primary issue with the provided Python code is that it incorrectly checks if a given number is a Fibonacci number.

#### Bug Analysis and Fixes

- Incorrect Equality Check:** The line `if fib == number:` is using a single equals sign, which is assignment in Python. To compare for equality, you should use `if fib == number:`.
- Missing Base Cases:** The code doesn't handle the base cases of the Fibonacci sequence (0 and 1). It should return 0 for 0 and 1 for 1.

#### Concise Single-Sentence Hint

**Hint:** The code is incorrectly comparing numbers using assignment instead of equality.

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Prompt hier eingeben

