?



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:</pre>
      raise ValueError("Keine gültige Fibonacci-Zahl")
```

index = 1

 $f_2 = 0$

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!"))

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?

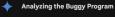
The hint should not be too detailed as I want

to think about the fixes by myself.

However, the hint should not be too abstract, as I need some help.

Vorschläge anzeigen ✓ •)





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

- 1. 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:
- 2. Missing Base Cases: The code doesn't handle the base cases of the Fibonacci sequence (O and 1). It should return O for O and 1 for 1.

Concise Single-Sentence Hint

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