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Mit einem Teamtarif...

I'm working on a Python programming problem. The current program below is not working well. Can you help in fixing this program with as few changes as possible? Below I first provide the problem description and then the current buggy program.

Given an integer N, find the number of divisors of N that are divisible by 3.

Buggy Program:

```
class P3_Python_buggy:

    def find_divisors_divisible_by_3(N):
        count = 0

        for i in range(1, N + 1):
            if N % i != 0:
                if i % 3 == 0:
                    count += 1

        return count

def main():
    n = 36 # Beispielwert
    count = P3_Python_buggy.find_divisors_divisible_by_3(n)
    print(f"Number of divisors of {n} that are divisible by 3: {count}")

if __name__ == "__main__":
    P3_Python_buggy.main()
```

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.

Certainly! The issue in the current program is within the `find_divisors_divisible_by_3` method. The condition `if N % i != 0` is incorrectly written because it excludes divisors of `N`. Instead, it should check if `N % i == 0` to ensure that `i` is a divisor of `N`. Also, the check for `i % 3 == 0` should only be performed if `i` is indeed a divisor of `N`.

Here's the corrected code with minimal changes:

```
python Code kopieren

class P3_Python_buggy:

    @staticmethod
    def find_divisors_divisible_by_3(N):
        count = 0

        for i in range(1, N + 1):
            if N % i == 0: # Check if i is a divisor of N
                if i % 3 == 0: # Check if the divisor is divisible by 3
                    count += 1

        return count

def main():
    n = 36 # Example value
    count = P3_Python_buggy.find_divisors_divisible_by_3(n)
    print(f"Number of divisors of {n} that are divisible by 3: {count}")

if __name__ == "__main__":
    P3_Python_buggy.main()
```

Explanation of Changes:

- Corrected the Condition to Identify Divisors: Changed `if N % i != 0` to `if N % i == 0`.
- Retained the Check for Divisibility by 3: The check `if i % 3 == 0` remains unchanged, but now it correctly follows the check for divisibility by `N`.

This will correctly count the number of divisors of `N` that are divisible by 3.

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Ist dieses Gespräch bislang hilfreich? 👍 👎 ✕

🗉 Sende eine Nachricht an ChatGPT