

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.

Vorschläge anzeigen



The primary issue with the provided code is the incorrect order of conditions. The program checks if  $i$  is not a divisor of  $N$  before checking if  $i$  is divisible by 3. This means that even if  $i$  is divisible by 3, it won't be counted if it's not a divisor of  $N$ .

To fix this, we need to first check if  $i$  is a divisor of  $N$  and then check if  $i$  is divisible by 3. Here's the corrected code:

```
Python

class P3_Python_buggy:

    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:
                    count += 1

        return count

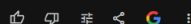
    def main():
        n = 36 # Beispielwert
        count = P3_Python_buggy.find_divisors_divisible_by_3(n)
        print(f"Number of divisors of {n} that are divisible by 3: {count}")

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

Verwende den Code [mit Vorsicht](#).



This corrected code will accurately count the number of divisors of  $N$  that are divisible by 3.



Prompt hier eingeben



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