

You are a tutor for an entry-level programming course at a university.

Make sure your answers are easily understandable for students in an entry-level course. Therefore explain all concepts that are used.

Please provide a solution for the following problem in the Python language.

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

Vorschläge anzeigen ▾



I'd be glad to provide a Python solution for the given problem, ensuring it's easily understandable for entry-level programming students:

Python

```
def count_divisible_by_3(N):  
    """Counts the number of divisors of N that are divisible by 3.  
  
    Args:  
        N: The integer for which to count the divisors.  
  
    Returns:  
        The number of divisors of N that are divisible by 3.  
    """  
  
    count = 0  
    for divisor in range(1, N + 1):  
        if N % divisor == 0 and divisor % 3 == 0:  
            count += 1  
    return count  
  
# Example usage:  
N = 18  
result = count_divisible_by_3(N)  
print("Number of divisors divisible by 3:", result)
```

Verwende den Code [mit Vorsicht](#).

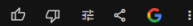


Explanation:

- Function Definition:** The `count_divisible_by_3` function takes an integer N as input and returns the count of divisors that are divisible by 3.
- Initialization:** The `count` variable is initialized to 0.
- Iterating Divisors:** The `for` loop iterates through all numbers from 1 to N (inclusive).
- Checking Divisibility:** Inside the loop:
 - `N % divisor == 0`: Checks if `divisor` is a divisor of N .
 - `divisor % 3 == 0`: Checks if `divisor` is divisible by 3.
- Incrementing Count:** If both conditions are true, it means `divisor` is a divisor of N and is divisible by 3. So, the `count` is incremented by 1.
- Returning Count:** After the loop completes, the function returns the `count` value, which represents the total number of divisors of N that are divisible by 3.

Example Usage:

The code demonstrates how to use the function by providing an example value for N (18) and printing the result.



Prompt hier eingeben



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