



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 R 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 solution to the given problem in R:

Code-Snippet

```
# Function to count divisors divisible by 3
count_divisors_divisible_by_3 <- function(N) {
  count <- 0
  for (i in 1:N) {
    if (N %% i == 0 && i %% 3 == 0) {
      count <- count + 1
    }
  }
  return(count)
}

# Example usage
N <- 27
result <- count_divisors_divisible_by_3(N)
print(result) # Output: 3
```

Verwende den Code [mit Vorsicht](#).



Explanation:

1. Function Definition:

- The `count_divisors_divisible_by_3` function takes an integer `N` as input.
- It initializes a counter `count` to 0.

2. Iteration:

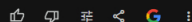
- The `for` loop iterates through numbers from 1 to `N`.
- For each number `i`, it checks two conditions:
 - If `i` is a divisor of `N` (using the modulo operator `%%`): `N %% i == 0`
 - If `i` is divisible by 3: `i %% 3 == 0`
- If both conditions are true, it increments the `count` by 1.

3. Return Value:

- The function returns the final value of `count`, which represents the number of divisors of `N` that are divisible by 3.

Example Usage:

- The code sets `N` to 27.
- It calls the function `count_divisors_divisible_by_3` with `N` as input.
- The result is printed, which in this case is 3, indicating that there are 3 divisors of 27 that are divisible by 3.



Prompt hier eingeben

