



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.

Can you help in fixing the following R code while making 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:

```
find_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)  
}  
  
n <- 36  
count <- find_divisors_divisible_by_3(n)  
cat("Number of divisors of", n, "that are divisible by 3:", count, "\n")
```

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.

Show drafts



The provided R code has a bug in the condition for counting divisors. The current condition checks if a number i is not a divisor of N (using $N \% i \neq 0$) and then checks if i is divisible by 3 (using $i \% 3 == 0$). This is incorrect because we want to count divisors that are divisible by 3, so both conditions should be true.

Here's the corrected code:

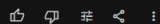
Code snippet

```
find_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)  
}
```

Use code [with caution](#).



The only change made is to replace $N \% i \neq 0$ with $N \% i == 0$. This ensures that only numbers that are divisors of N and also divisible by 3 are counted.



Enter a prompt here

