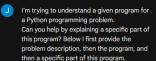


o



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

def find_divisors_divisible_by_3(N):

```
# Iterate through all numbers from 1 to N
for i in range(1, N + 1):
  # Check if 'i' is a divisor of N
  if N % i == 0:
    # Check if the divisor is divisible by 3
      count += 1
```

def main():

```
n = 36 # Beispielinput
count = find_divisors_divisible_by_3(n)
print(f"Number of divisors of {n} that are divisible by 3: {count}")
```

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

Specific part:

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

Can you provide a detailed explanation about the specific part above in the context of the whole program?

Vorschläge anzeigen 🗸 🌖



 I'd be glad to provide a detailed explanation of the specific part of the Python program you've shared:

Code Snippet:

```
Python
      i if range.

# Check if i' is a divisor or w

# Check if the divisor is divisible by 3
                                                                                                               0
```

Explanation:

This code segment is a crucial part of the <code>find_divisors_divisible_by_3</code> function, which is designed to count the number of divisors of a given integer N that are also divisible by 3.

Breakdown:

- 1. for i in range(1, N + 1):
- $\circ~$ This line initiates a loop that iterates through all integers $\,\,\mathbf{i}~$ from 1 to $\,\,\mathbf{N}$ (inclusive). This loop is essential for checking every possible divisor of $\,{\rm N}\,$.
- $\circ~$ This conditional statement checks if ~i~ is a divisor of ~ N . If the remainder of N divided by i is 0, it means i divides N evenly.
- $\circ~$ If ~i~ is indeed a divisor of ~ N , this conditional statement further checks if ~i~itself is divisible by 3. If the remainder of $\, \mathbf{i} \,$ divided by 3 is 0, it means $\, \mathbf{i} \,$ is a multiple of 3.
- $\circ~$ If both conditions are met (i.e., $\,\mathtt{i}~$ is a divisor of $\,\mathtt{N}~$ and $\,\mathtt{i}~$ is divisible by 3), this line increments the <code>count</code> variable by 1. This effectively counts the number of divisors of N that satisfy the given criteria.

This code segment iterates through all integers from 1 to $\,$ N , identifies those that are divisors of N , and then filters out the divisors that are not divisible by 3. The count variable keeps track of the number of divisors that meet both conditions, providing the desired result.

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Prompt hier eingeben



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