

ChatGPT 4o

ChatGPT

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Heute

New chat

GCD Calculation in Python

Python GCD Function

Juli

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Neuer Chat

Team-Arbeitsbereich hinzufügen

Mit einem Teamtarif...

Consider the following programming problem:
Given two positive integers A and B,
find GCD of A and B.
Please provide a solution for this problem in the Python language.

You can solve the problem of finding the Greatest Common Divisor (GCD) of two positive integers A and B using the Euclidean algorithm. The Euclidean algorithm is efficient and works based on the principle that the GCD of two numbers also divides their difference.

Here is a Python solution using the Euclidean algorithm:

```
python Code kopieren

def gcd(a, b):
    while b:
        a, b = b, a % b
    return a

# Example usage:
A = int(input("Enter the first number (A): "))
B = int(input("Enter the second number (B): "))

result = gcd(A, B)
print(f"The GCD of {A} and {B} is: {result}")
```

Explanation:

- The function `gcd` takes two arguments, `a` and `b`.
- It repeatedly replaces `a` with `b` and `b` with `a % b` until `b` becomes zero. When `b` is zero, `a` will contain the GCD of the two numbers.
- The `%` operator is the modulo operator, which gives the remainder when `a` is divided by `b`.

Example Run:

```
plaintext Code kopieren

Enter the first number (A): 48
Enter the second number (B): 18
The GCD of 48 and 18 is: 6
```

In this example, the GCD of 48 and 18 is correctly calculated as 6.



Sende eine Nachricht an ChatGPT

ChatGPT kann Fehler machen. Überprüfe wichtige Informationen.

