



Please consider this programming problem:
Given two positive integers A and B,
find GCD of A and B.
Provide an example solution for the problem in the Python language.

Vorschläge anzeigen ▾ 🔊



Python

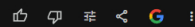
```
def gcd(a, b):  
    """Finds the greatest common divisor of two positive integers.  
  
    Args:  
        a: The first positive integer.  
        b: The second positive integer.  
  
    Returns:  
        The greatest common divisor of a and b.  
    """  
  
    while b != 0:  
        a, b = b, a % b  
    return a  
  
# Example usage:  
a = 24  
b = 18  
gcd_result = gcd(a, b)  
print("GCD of", a, "and", b, "is:", gcd_result)
```

Verwende den Code [mit Vorsicht](#).

This Python code implements the Euclidean algorithm to find the greatest common divisor (GCD) of two positive integers. Here's a breakdown of the code:

- Function definition:** The `gcd(a, b)` function takes two positive integers `a` and `b` as input.
- Euclidean algorithm:** The `while` loop iteratively applies the Euclidean algorithm to find the GCD.
 - In each iteration, the remainder of `a` divided by `b` is calculated and stored in `b`.
 - Then, `a` is updated with the previous value of `b`, and `b` is updated with the calculated remainder.
- Return GCD:** Once the loop terminates (when `b` becomes 0), the value of `a` at that point is the GCD. The function returns this value.
- Example usage:** The code demonstrates how to use the `gcd` function. It sets `a` to 24 and `b` to 18, calls the function, and prints the resulting GCD.

This implementation is efficient and provides a clear solution to the given problem.



Prompt hier eingeben

