

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 Python language.

Given two positive integers A and B,  
find GCD of A and B.

Vorschläge anzeigen



I'd be glad to help you with that! Here's a Python solution to find the GCD (Greatest Common Divisor) of two positive integers A and B:

Python

```
def gcd(a, b):
    """Finds the greatest common divisor (GCD) 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 = 12
b = 18
result = gcd(a, b)
print("GCD of", a, "and", b, "is:", result)
```

Verwende den Code [mit Vorsicht](#).



#### Explanation:

- gcd(a, b) function:** This function takes two positive integers `a` and `b` as input and returns their GCD.
- while b != 0: loop:** This loop continues as long as `b` is not zero.
- a, b = b, a % b:** This line performs the Euclidean algorithm to find the GCD. It updates `a` and `b` as follows:
  - `a` is assigned the value of `b`.
  - `b` is assigned the remainder of `a` divided by `b`.
- return a:** Once the loop terminates, the value of `a` is returned as the GCD.

#### Example usage:

The example code demonstrates how to use the `gcd` function. It sets `a` to 12 and `b` to 18, calls the `gcd` function with these values, and prints the result.

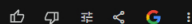
This solution is efficient and easy to understand, making it suitable for entry-level programming courses.

Quellen und ähnliche Inhalte

github.com



github.com



Prompt hier eingeben



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