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STRING METHODS

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paper and cup story

a, b = 0, 1 while a < 10:

```
  print(a)
  a, b = b, a+b
```

Algorithm Breakdown:

Initialization:

The variables a and b are initialized to 0 and 1, respectively. These values will serve as the starting point for the Fibonacci sequence. Loop Condition:

The while loop checks if the value of a is less than 10. As long as this condition is true, the loop continues to execute. Printing:

Inside the loop, the value of a is printed to the console. This displays each number in the Fibonacci sequence that is less than 10. Updating Values:

The values of a and b are updated using tuple assignment:

- a is assigned the current value of b.
- b is assigned the sum of the old values of a and b.

Fibonacci Sequence Generation:

This code effectively generates the Fibonacci sequence, which is a series of numbers where each number is the sum of the two preceding ones. Here's how it works:

First Iteration: a is 0, and b is 1. a is printed (0). a becomes 1, and b becomes 0 + 1 = 1.

Second Iteration: a is 1, and b is 1. a is printed (1). a becomes 1, and b becomes 1 + 1 = 2.

Third Iteration: a is 1, and b is 2. a is printed (1). a becomes 2, and b becomes 1 + 2 = 3. And so on, until a reaches 10.

Output:

The code will output the following numbers on the console:

0 1 1 2 3 5 8 These are the Fibonacci numbers less than 10.