509. Fibonacci Number

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The **Fibonacci numbers**, commonly denoted `F(n)` form a sequence, called the **Fibonacci sequence**, such that each number is the sum of the two preceding ones, starting from `0` and `1`. That is,

```
F(0) = 0, F(1) = 1
F(n) = F(n - 1) + F(n - 2), for n > 1.
```

Given `n`, calculate `F(n)`.

Example 1:

```
Input: n = 2
Output: 1
Explanation: F(2) = F(1) + F(0) = 1 + 0 = 1.
```

Example 2:

```
Input: n = 3
Output: 2
Explanation: F(3) = F(2) + F(1) = 1 + 1 = 2.
```

Example 3:

```
Input: n = 4
Output: 3
Explanation: F(4) = F(3) + F(2) = 2 + 1 = 3.
```

Constraints:

- `0 <= n <= 30`

Accepted 671,034 Submissions 985,927

Java Autocomplete

```java
class Solution {

    private int fib(int n, int[] array){
        if(n <= 1)
            return n;
        else if(array[n] != -1)
            return array[n];
        else{
            array[n] = fib(n - 1, array) + fib(n - 2, array);
            return array[n];
        }
    }

    public int fib(int n) {
        int[] arr = new int[n + 1];

        for(int i = 0; i <= n; i++)
            arr[i] = -1;

        return fib(n, arr);
    }
}
```

Testcase Run Code Result Debugger

Accepted Runtime: 0 ms

Your input 2

Output 1 Diff

Expected 1