

Finding nth Number In Fibonacci Sequence

Bossa Nova Robotics Interview

Jan 9, 2020

Part I

1. The code for part one is attached along with this document named "Febo.c".
2. This code contains all the three functions:
 - (a) Iterative method
 - (b) Recursive method
 - (c) Optimal method
3. Input: Enter the desired nth number in Fibonacci Sequence.
4. Output: Displays calculated answer using all 3 methods.

Part II

1. From your implementation of the above two functions (recursive and iterative), which would you use in an actual release?
 - In general applications I personally prefer Iterative method because it is easy to write and understand and it is best for this given problem.
 - Depending on the memory available to process, time needed to complete the process and size of the code, I would choose between them.
 - Depending on the application, if the client doesn't need to understand and a lot of memory is available I would use Recursive method as it consumes more memory and a little difficult to understand.
2. For the version you wouldn't choose, please include your reasons why you wouldn't use it.
 - It would not use recursive method in this application because its too complex for this application and if it is called too many times its wasting a lot of memory. In this case iterative is easy and easily understood.
3. Is there any situation you can think of where you would use the 'bad' version?
 - yes, for like quick sorting, binary search etc.,

Part III

1. This is also given in the code file. In this code the values are replaced in each iteration to save memory and to process efficiently.

Please let me know if I am missing something or you are looking for something else than this. I will fix the code in a smile. Thank you.