

Expectations:

For recursive and iterative method for Fibonacci Numbers Calculation. I guess that recursive will be slow, because I think the recursive will have extra calculation for Fibonacci Numbers Calculation. For example, to calculate the the 5th Fibonacci Numbers, it have to calculate the 4th Fibonacci Numbers. And this is extra calculation. But for the iterative(Non recursive) method, it does not need extra calculation.

So I think the recursive method will be slower than the iterative method.

Result:

-----The NO.1 round-----

Calculating for Fibonacci Recursive...

2th fibonacci number: 1

It took me 5 clicks (0.000005 seconds).

Calculating for Fibonacci Non Recursive...

2th fibonacci Number:1

It took me 3 clicks (0.000003 seconds).

-----The NO.2 round-----

Calculating for Fibonacci Recursive...

5th fibonacci number: 5

It took me 4 clicks (0.000004 seconds).

Calculating for Fibonacci Non Recursive...

5th fibonacci Number:5

It took me 3 clicks (0.000003 seconds).

-----The NO.3 round-----

Calculating for Fibonacci Recursive...

25th fibonacci number: 75025

It took me 700 clicks (0.000700 seconds).

Calculating for Fibonacci Non Recursive...

25th fibonacci Number:75025

It took me 5 clicks (0.000005 seconds).

-----The NO.4 round-----

Calculating for Fibonacci Recursive...

30th fibonacci number: 832040

It took me 7465 clicks (0.007465 seconds).

Calculating for Fibonacci Non Recursive...

30th fibonacci Number:832040

It took me 5 clicks (0.000005 seconds).

-----The NO.5 round-----

Calculating for Fibonacci Recursive...

40th fibonacci number: 102334155

It took me 908433 clicks (0.908433 seconds).

Calculating for Fibonacci Non Recursive...

40th fibonacci Number:102334155

It took me 5 clicks (0.000005 seconds).

-----The NO.6 round-----

Calculating for Fibonacci Recursive...

43th fibonacci number: 433494437

It took me 3801179 clicks (3.801179 seconds).

Calculating for Fibonacci Non Recursive...

43th fibonacci Number:433494437

It took me 4 clicks (0.000004 seconds).

-----The NO.7 round-----

Calculating for Fibonacci Recursive...

46th fibonacci number: 1836311903

It took me 16083508 clicks (16.083508 seconds).

Calculating for Fibonacci Non Recursive...

46th fibonacci Number:1836311903

It took me 5 clicks (0.000005 seconds).

Conclusion:

From the result, we notice that the Non Recursive(iterative method) method is faster than the Recursive method. When the number is small the time has a little difference, and when the number is large the time difference becomes large. The time difference grows with the number grows.

It is same with my expectations. Recursive method will be slow, because I think the recursive will have extra calculation for Fibonacci Numbers Calculation. But for the iterative(Non recursive) method, it does not need extra calculation. So the time of the iterative(Non recursive) method is less than the Recursive method.