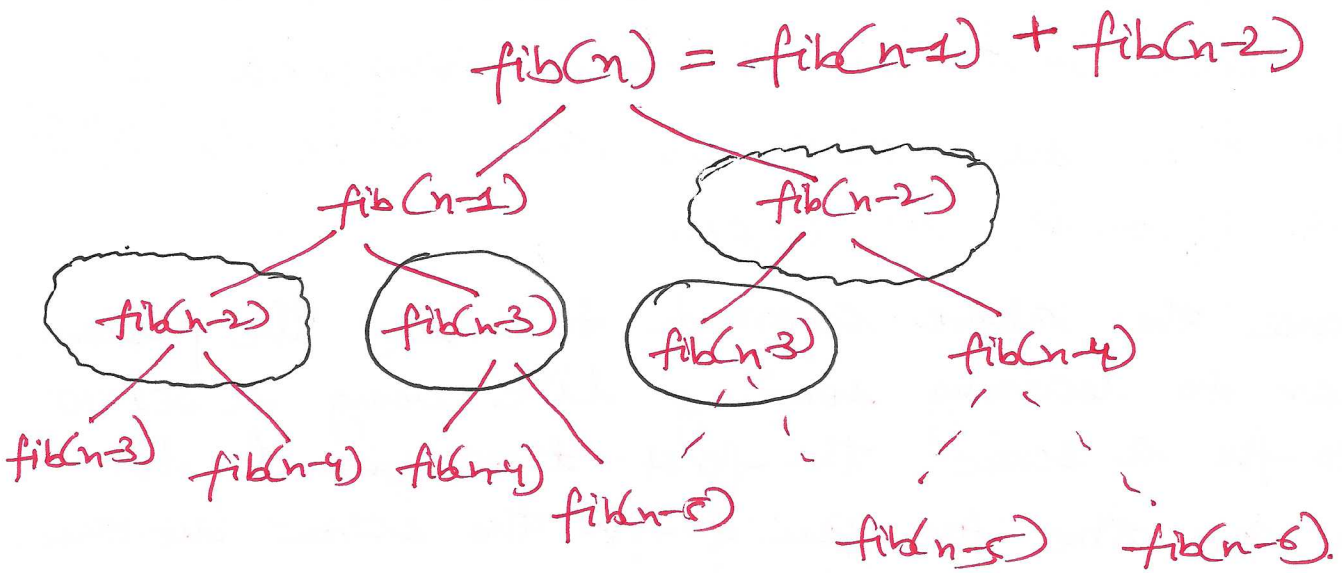
Let's now study the recursion tree of fibonacci series in a little detail which will lead us to understanding the concept of dynamic programming. Lets redraw the recursion tree of / or corresponding to the fibonacci function:



In the above recursion tree we can readily spot areas in the tree where the recursive function being computed is repeated. In essence what the above picture tells us is the following:

this also means that all successive recursive calls they spawn are also computed again.

1) fib(n-2) is computed twice.
2) fib(n-3) is computed twice.
.
.
.
n) There might be other fib(n) that might be computed multiple times.

Hence its pretty evident from the above structure that we are doing a lot of repeated work while