**int** fib(**int** n) {

if (n <= 1) {

return n;

}

return fib(n - 2) + fib(n - 1);

}

**int** main() {

fib(7);

return 0;

}

excessive recursion, O(n) = 2n (roughly)

0 1

| |

fib(0) + fib(1)

0 1 0 1 0 1 0 1 1

| | | | | | | | | |

fib(0) + fib(1)                                        fib(0) + fib(1)            fib(0) + fib(1)     fib(0) + fib(1)    fib(1) + fib(2)

0 1 0 1 1 0 1 1 1

| | | | | | | | | | | | | |

      fib(0) + fib(1)         fib(0) + fib(1)         fib(1) + fib(2)          fib(0) + fib(1)          fib(1) + fib(2)            fib(1) + fib(2)                     fib(2)         +         fib(3)

1

| | | | | | | |

fib(1) + fib(2)                      fib(2)           +          fib(3)                          fib(2)           +           fib(3)                         fib(3)                     +               fib(4)

| | | |

        fib(3)                     +                       fib(4)                                                          fib(4)                                     +                              fib(5)

                 | |

                     fib(5)                                                                 +                                                  fib(6)

|

fib(7)