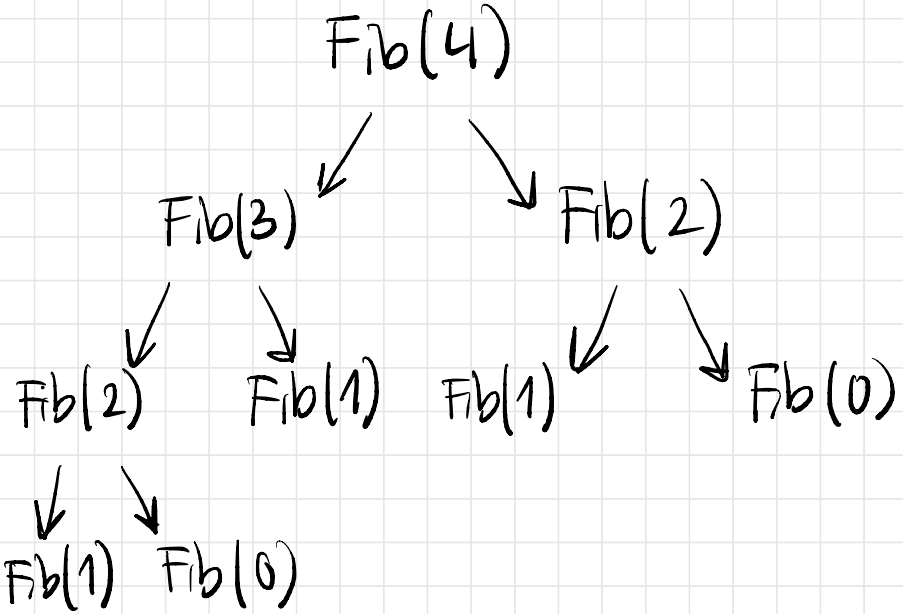
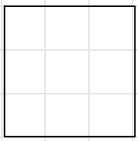
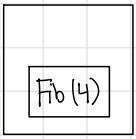
Fibonacci sequence: 0 1 1 2 3 5 8 ...



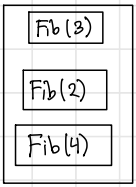
Run-time Stack for Fib(4)



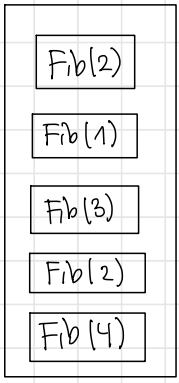
Empty stack



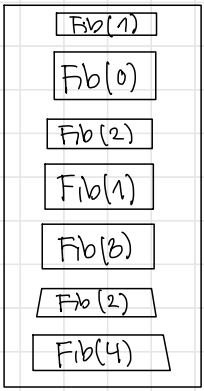
Push Fib(4) onto stack



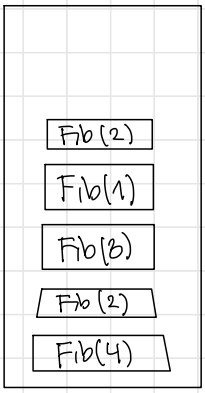
Push Fib(2) and Fib(3) onto stack



Push Fib(1) and Fib(2) onto stack

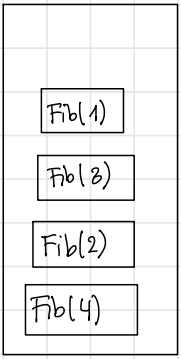


Push Fib(0) and Fib(1) onto stack

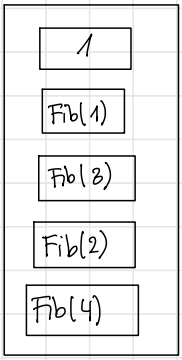


Pop Fib(1) and Fib(0)

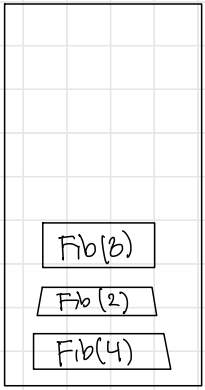
Evaluate Fib(1) + Fib(0)



Pop Fib(2)

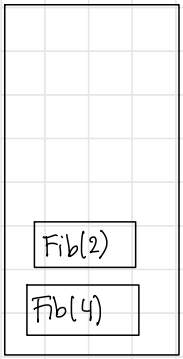


Push (Fib(1) + Fib(0)) onto stack

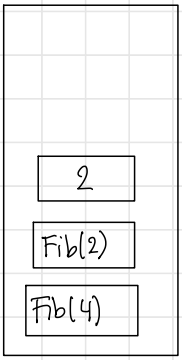


Pop 1 and Fib(1)

Evaluate 1 + Fib(1)

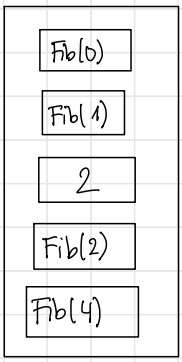


Pop Fib(3)

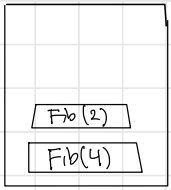


Push (1 + Fib(1)) onto stack

→

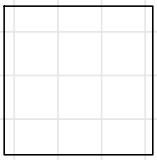


Push Fib(1) and Fib(0) onto stack

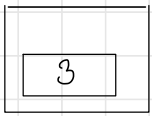


Pop Fib(1) and Fib(0) and 2

Evaluate Fib(1) + Fib(0) + 2



Pop Fib(2) and Fib(4)



Push (Fib(1) + Fib(0) + 2) onto stack

Pop 3.

Output: 3