

## A better way of computing $F(n)$

Input:  $n \in \mathbb{Z}^+$

Output: We will return  $F(n)$ , the  $n^{\text{th}}$  Fibonacci number.

- ▶ If  $n \leq 2$  return 1. Else:
  - ▶  $FIB[1] := 1$
  - ▶  $FIB[2] := 1$
  - ▶ For  $i = 3$  up to  $n$ , DO
    - ▶  $FIB[i] := FIB[i - 1] + FIB[i - 2]$
  - ▶ Return  $FIB[n]$