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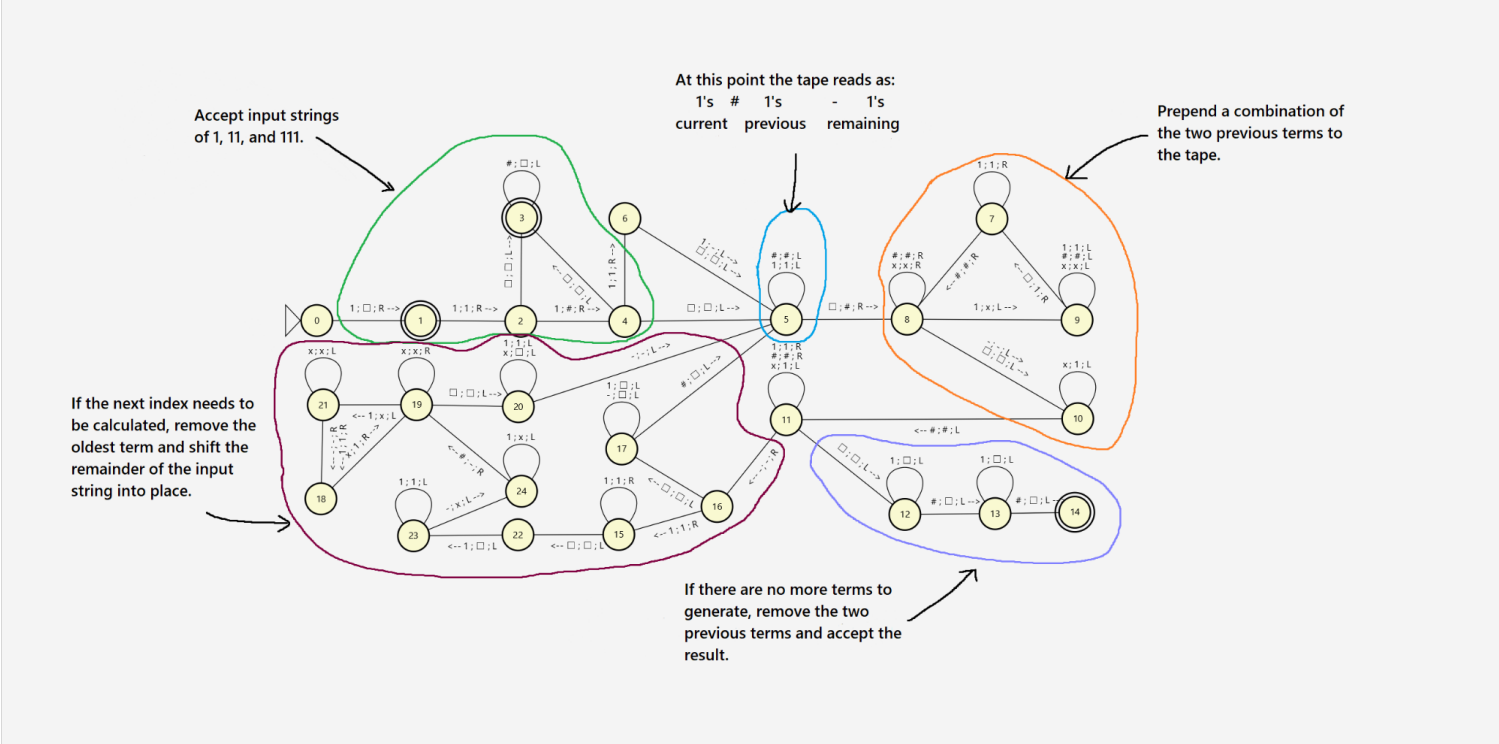
Problem: nth Fibonacci number

Problem Description: Given an index n > 2 (as a unary number), compute the nth fibonacci number.

Solution / Machine Description:
- The machine takes in ‘1’s as the unary number.
- If the input string contains something other than a ‘1’ it should stop and reject.
- My solution was to store the two previous fibonacci numbers by separating them with a ‘#’, and have a ‘-’ denote that the next index needs to be generated.



How to start the TM:
- Load the ‘ fib_mach.txt ‘ in the Stem jar.
- The input tape should be a string of ‘1’s.
- Hit ‘Run Machine’

(NOTE) At inputs such as n = 13, 14… my executable would sometimes crash.

Example Inputs → Outputs:

Rejected

f → f 1f → f 11f → 1f 111f → 1#f 1111f → 1#1f

Accepted

1 →	(1 →)	1111111 → 11111111	(7 → 8)
11 → 1	(2 → 1)	11111111 → 1111111111111	(8 → 13)
111 → 1	(3 → 1)	111111111 → 1111111111111111111	(8 → 21)
1111 → 11	(4 → 2)		(9 → 34)
11111 → 111	(5 → 3)		…
111111 → 11111	(6 → 5)		