The Fibonacci function is defined as

$$fib(n) = \begin{cases} 0 & \text{if } n = 0 \\ 1 & \text{if } n = 1 \\ fib(n-1) + fib(n-2) & \text{if } n > 1 \end{cases}$$

We want to implement this function in hardware. Assume that n is a 6-bit input and interpreted as an unsigned integer. Note that $fib(63)$ is 6557470319842.

(a) Derive an ASMD chart.

See sections 11.2 and 11.3.1 & 11.3.2 of the text for a description of the ASMD chart and its creation.