The DP algorithm

Input: $x \in \{0,1\}^+$
Output: *True* or *False* (i.e., whether $x \in L$)

Algorithm:

- If $length(x) \leq 2$, Return ($x \in \{1, 10\}$)
- Else compute $M[1...n]$, where $n = length(x)$, and Return (M[n])

Questions:

- Is this algorithm correct? Could you prove it correct?
- What is the running time?

Class exercise: Compute $M[1...6]$ for $x = 111000$ and $y = 1000100$