

Take a Memo!

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Assume that you have an array of integers C with indexes $1 \dots n$.
Consider the following recurrence:

$$A(i) = \begin{cases} 1 & \text{if } i \text{ is a power of } 2 \\ \min_{\lceil i/2 \rceil \leq j \leq i} (A(j) + C[i] - C[j]) & \text{otherwise} \end{cases}$$

Give pseudocode for a memoized version of this algorithm. You may not use global variables (although you may assume you have a language with nested scopes/functions if you like). Your solution should take C (and n if desired) as a parameter.

