Problem 10.1 [Succinct RMQ]. Design a succinct static data structure for the ±1 RMQ problem: preprocess a static array of \(n\) integers, where adjacent entries differ by ±1, into a data structure supporting constant-time queries to return the index of the minimum element in a given range. Your data structure should be succinct, meaning that it should use only \(n + o(n)\) bits of space.

Hint: Use two layers of indirection, similar to how we did for succinct rank and select.