*Range minimum query*

You are given a list of n numbers and q queries. Each query is specified by two numbers i and j and the answer to each query is the minimum number between the range i and j (inclusiv). The query ranges are specified using 0-based indexing.

*Solution: Sparse Table*

The worst solution would use brute force and have a time complexity of O(nq). To solve this we can preprocess the array in time O(n log n) and then each query will be answered in constant time O(1).

There are n² intervals or possible queries in an array of length n and computing the minimum value for each inteval would result in a bad time complexity. The solution is to find the minimum only for the interval that have the length of a power of 2 ( length = 2k )