

1. Write the advantages and disadvantages of leftist heaps.

Leftist heaps can merge quickly, which can be advantageous when working in a situation that requires frequent merging of trees. The merge operation is also extremely advantageous in that it makes insert and deleteMin algorithms extremely simple, as they both just involve using merge. However, the unbalanced structure of a leftist tree can cause some disadvantages, such as higher worst-case complexity when searching for a specific element.

2. Explain the advantages and disadvantages of implementing a leftist heap using a pointer-based implementation instead of an array-based implementation.

A pointer-based implementation makes much more sense for a leftist heap, as the unbalanced structure of a leftist tree would leave numerous unfilled locations between values in an array-based implementation. Additionally, the merge algorithm is much easier and more efficient when using a pointer-based implementation.