

CSCI 230 FALL 2023  
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## Homework Seven: Revision

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## 1 Homework Seven: Bug Fixes

- add method: size now compares to internal.length - 1. Before, it compared to internal.length, which leads to an error since internal.length will be one higher than this.size due to the first index(0) being included in its length. Should no longer encounter an error.
- removeMin method: changed compareInd from  $\text{compareInd} *= 2 + \text{add}$  to  $\text{compareInd} = \text{root} * 2 + \text{add}$ . Now, compareInd does not grow exponentially, but only 2x whatever root is. Should no longer give null pointer exception.

## 2 Homework Seven: Conceptual Difficulties and Lessons Learned

- When doing this assignment, visualizing the comparisons of root to  $2 \times \text{root} + 1$  was difficult as well as not going out of bounds. Also when adding and percolating, it was unknown to me whether to compare to  $\text{root}/2$  lower or upper.
- From this project, I learned how a minheap works and how it could be used to efficiently sort compared to other methods. Other than that, I learned how to visualize a min heap within an array.