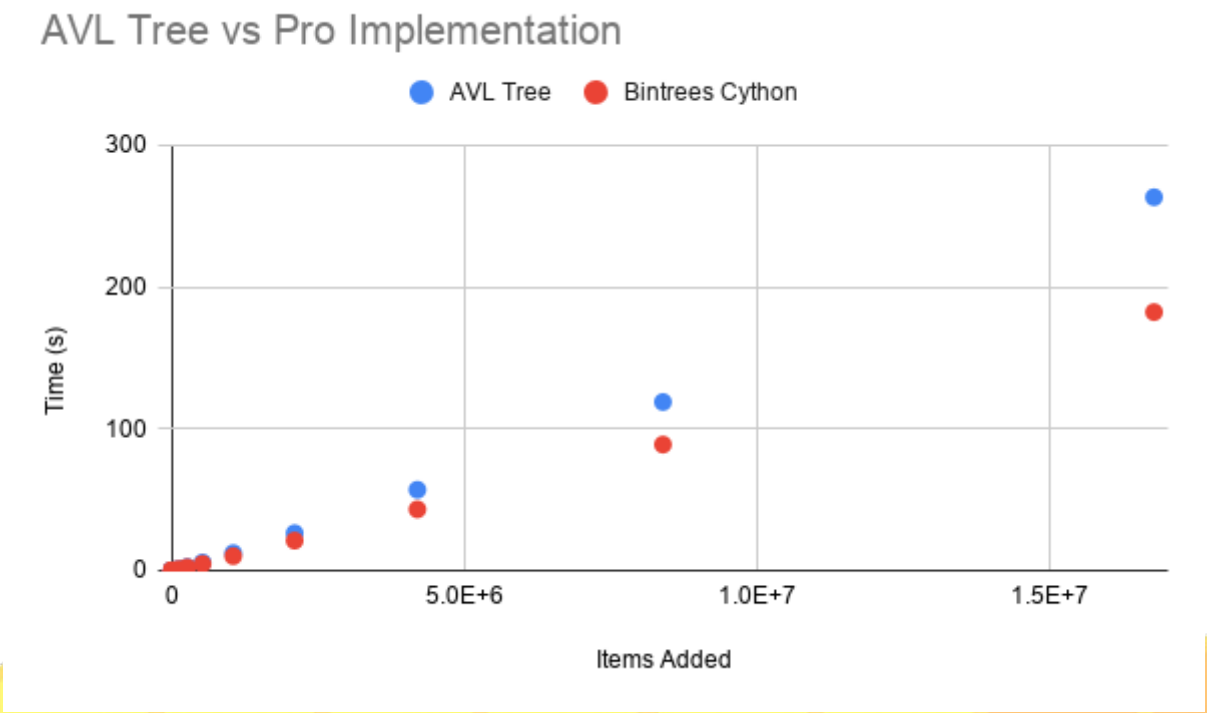
Self-Balancing Tree

Computer Programming III / Tristan Goodell

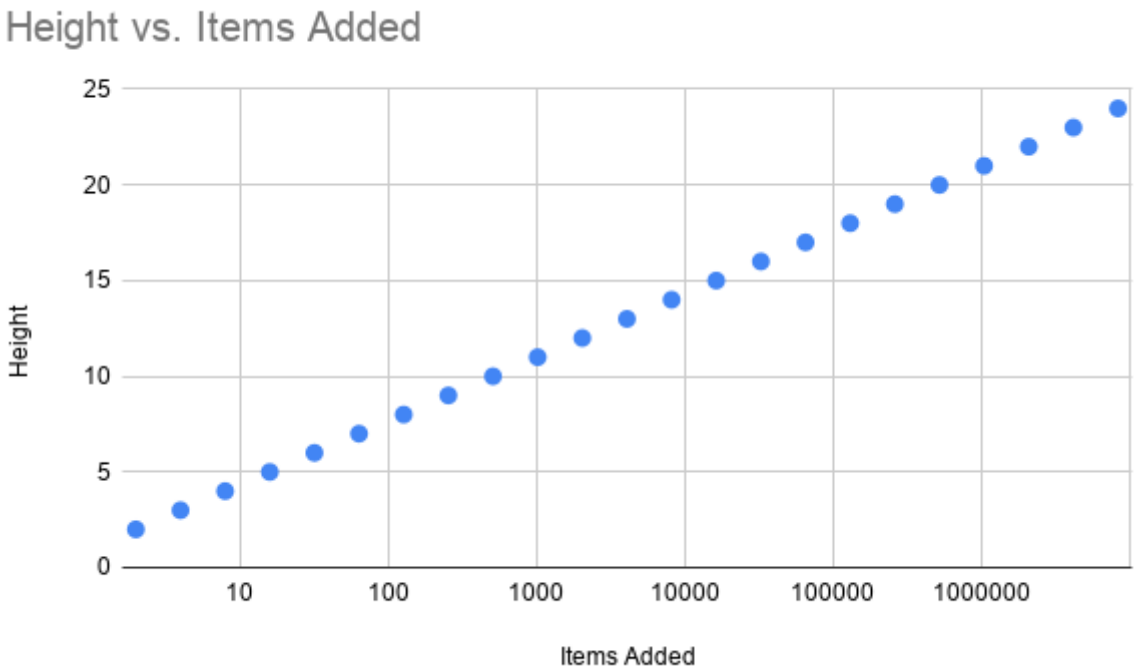
Time vs n Items

- AVL Tree vs Bintrees Cython Tree.
- Create and add 2^n items for five minutes.



Height vs n Items

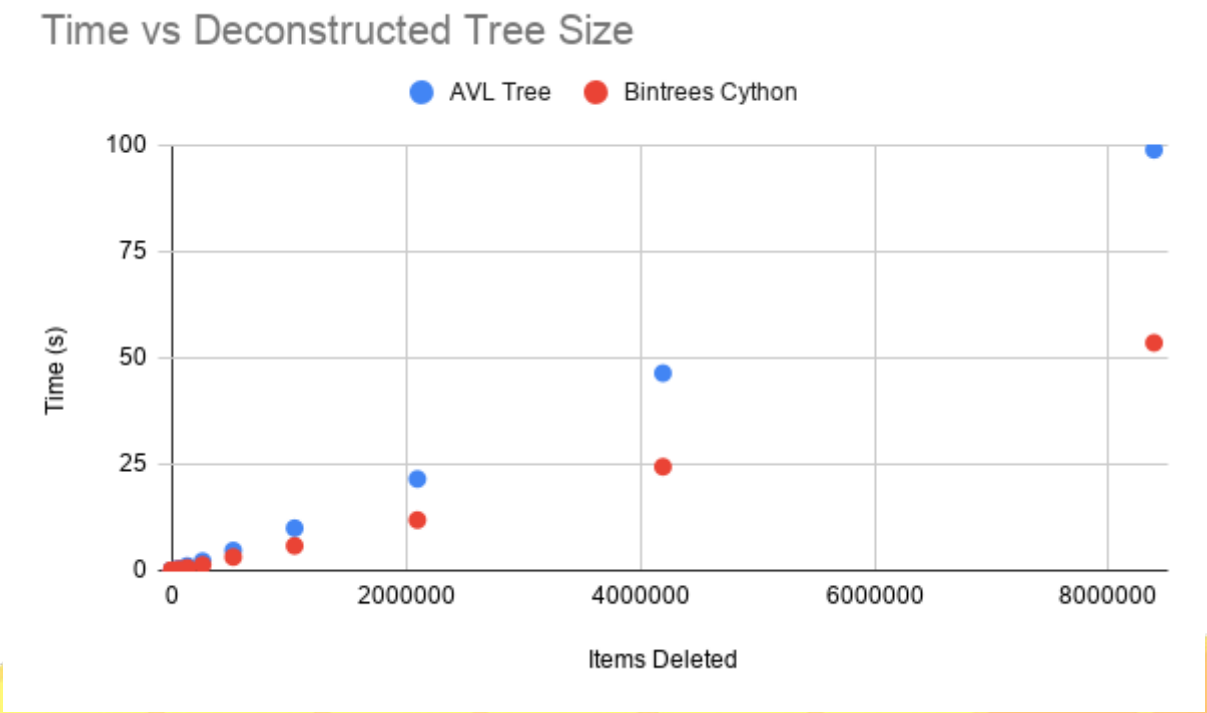
- Height for custom AVL Tree implementation.
- Create and add 2^n items for five minutes.



(Log Scale)

Deconstruction Time

- Time to deconstruct custom and pro.
- Create tree size 2^n and then deconstruct it.



Deconstruction Complexity

- Time complexity for custom and pro is O(n).
- This is supported by a Linear Regression Analysis.
- Since both implementations have an R^2 of 0.998, O(n) describes their time complexity very well.