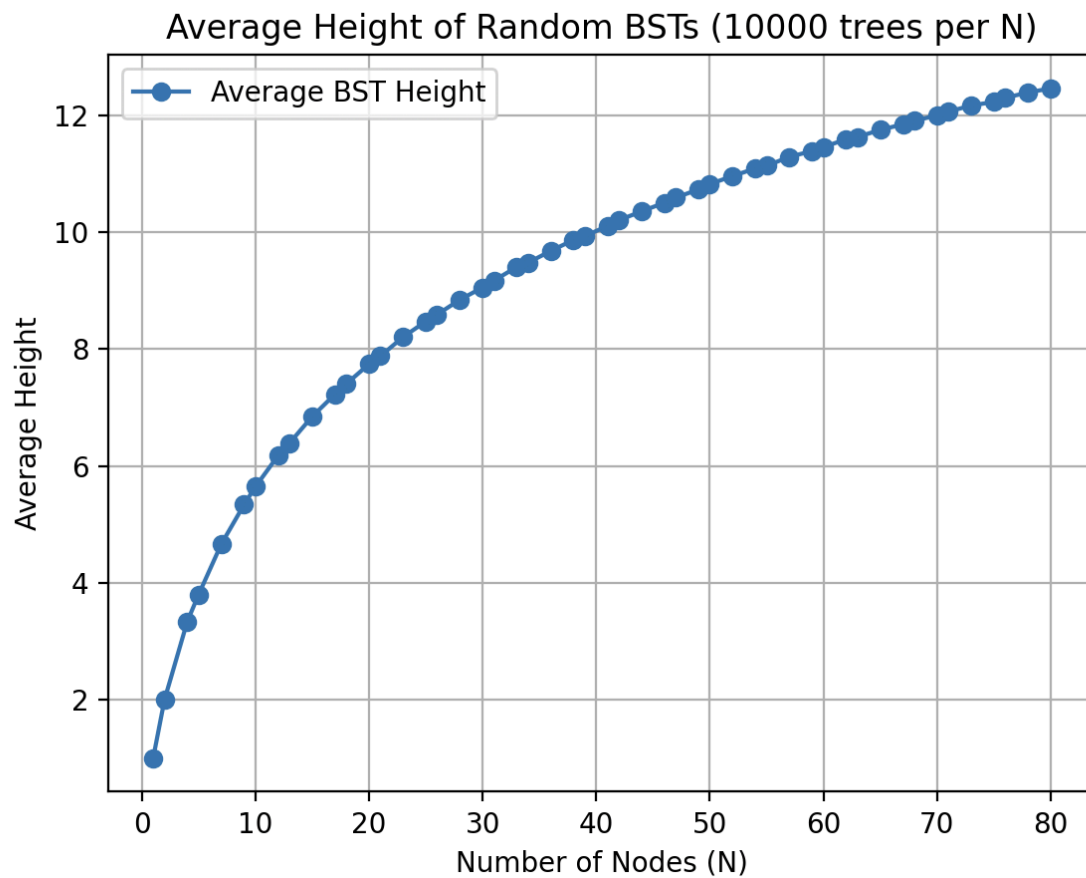


Average BST Height vs N

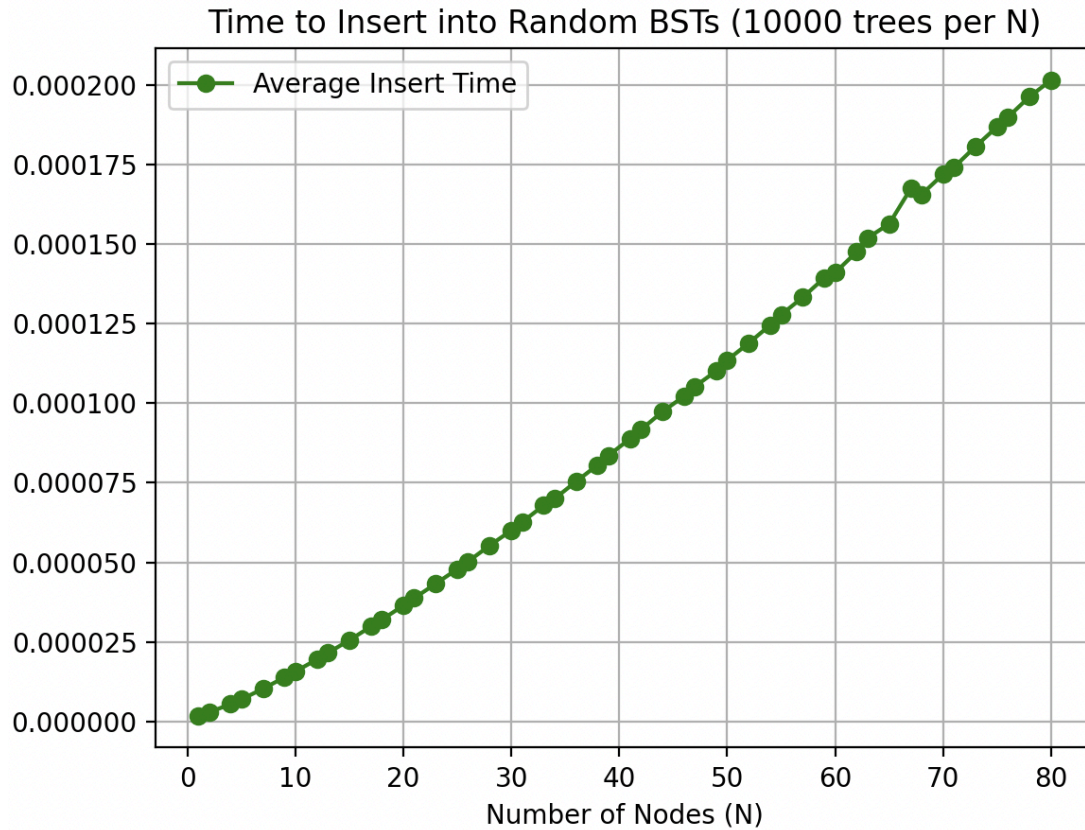
Plot:



Observation : The average height increases roughly in proportion to $\log(N)$ base 2. As N grows the curve follows the trend. So random BSTs have expected height $O(\log N)$

Average Insertion Time vs N

Plot:



Observation: Insertion type also grows approximately $O(N)$. Insertion requires traversing the tree to find the correct spot so the complexity is proportional to tree height. We suspect that this should actually be between $O(N)$ and $O(\log N)$ though since the worst case is $O(N)$ with an unbalanced tree and the average random height of a tree is $O(\log N)$. The errors within our graph are from the fact the graph should represent the creation of a tree and an insert.