CS240E W25	**Tutorial 6**	Feb. 14

Overview

- Square Root Recurrence
- Search Decision Trees

Problems

Note that there are fewer problems this week due to the cancelled lecture not introducing tries.

Q1. Interpolation Search Recurrence.

Show that if $T(n) = T(\sqrt{n}) + O(1)$, then $T(n) \in O(\log \log n)$.

Q2. Binary Search.

Draw the decision tree for binary search and for improved-binary-search on four distinct items x_0, x_1, x_2, x_3. What is the worst-case, best-case, and average-case number of key-comparisons for both methods, assuming that the key you search for is present in the array?