Homework 15

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The decision tree can be thought of as:

- Each node has a branching factor of 2 and stores the cumulative distance traveled by the taxis (separately) up to this point.

- The left child of a node a level i represents taxi A visiting the point p_{i+1} and the right child represents taxi B visiting the point p_{i+1}. (why would both visit? edge cases? - at best it would add no extra distance?)

- At depth i, i points have been visited.

- The root of the tree would represent no nodes having been visited by either taxi and would therefore have 0 for the distance traveled by both taxis.

Because each point needs to be visited by at least one taxi, and there are no discernible benefits(?) for having both taxis visit a point, each point is either visited by taxi A or by taxi B. Therefore there are 2^n possible paths and the decision tree described above enumerates all 2^n possible path pairs through the points in order.
The decision tree can be pruned an transformed into a dynamic pruning algorithm using the following rules:

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