443 A tree can be implemented by listing its items in breadth order.
(a) Implement a binary tree by a list of its items such that the root is at index 0 and the left and right subtrees of an item at index n are rooted at indexes $2{\times}n+1$ and $2{\times}n+2$.
(b) Prove your implementation.
(c) Generalize this implementation to trees in which each item can have at most k branches for arbitrary (but constant) k .

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§ surprisingly hard due to many fiddly details

(b) Prove your implementation.

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