Tree Data Structure Solutions

Tree Data Structure

- Briefly describe the tree data structure
    - A tree is a data structure in which element has its own node
    - A node has a "key" for the element and two pointers, "left" and "right"
    - The relative positions of elements depends on their keys
    - "left" points to an element which has a lower key than this node
    - "right" points to an element which has a higher key than this node

Tree Balancing

- What does it mean when a tree is "unbalanced"?
  - A tree becomes "unbalanced" when there are too many elements in one branch of the tree
  - This makes the tree less efficient
  - We may need to "rebalance" the tree by moving elements around until the tree is balanced again
  - "Balanced trees" automatically rebalance themselves when needed