

Trees

Red-Black Tree

- is a binary search tree
- inserts and removes intelligently, to ensure the tree is reasonably balanced.
- used in computer science to organize pieces of comparable data, such as text fragments or numbers.
- the leaf nodes are not relevant and do not contain data
- A red-black tree is a binary search tree where each node has a color attribute, the value of which is either red or black.
- In addition to the ordinary requirements imposed on binary search trees, the following additional requirements apply to red-black trees:
 - A node is either red or black.
 - The root is black.
 - All leaves are black.
 - Both children of every red node are black.
 - Every simple path from a given node to any of its descendant leaves contains the same number of black nodes.