

# Red-Black Trees

1. Map (dictionary) data structure: `public Map<Key, Value>`
  - a. Hash Map vs. Binary Tree Map
2. Red-Black Trees (Guibas and Sedgewick, 1978)
  - a. Guarantees
  - b. Worst case
3. Properties of Red-Black Trees
4. Proof of bounds
5. Maintaining approximate balance
6. Implementation & software engineering
7. Left-Leaning Red-Black Trees (Sedgewick 2008)