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ePAL - B₊ and 2-3-4 Trees

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- 1 Red-Black Tree
- 2 2-3-4 Tree
- 3 B Tree
- 4 B+ Tree

Outline

1 Red-Black Tree

2 2-3-4 Tree

3 B Tree

4 B+ Tree

Example 1

To an initially empty red-black tree insert sequentially keys
10, 85, 15, 70, 20, 60, 30, 50, 65, 80, 90, 40, 5, 55.

Outline

- 1 Red-Black Tree
- 2 2-3-4 Tree
- 3 B Tree
- 4 B+ Tree

Example 2

To an initially empty 2-3-4 tree insert sequentially keys 2, 15, 12, 4, 8, 10, 25, 35, 55, 11, 9, 5, 7.

Example 3

To an initially empty 2-3-4 tree insert sequentially keys
A, S, E, R, C, H, I, N, G, X.

Outline

- 1 Red-Black Tree
- 2 2-3-4 Tree
- 3 B Tree**
- 4 B+ Tree

Example 4

To an initially empty B tree of order 5 insert sequentially keys
 $C, N, G, A, H, E, K, Q, M, F, W, L, T, Z, D, P, R, X, Y, S$.

Example 5

From an initially empty B tree of order 5 with sequentially inserted keys $C, N, G, A, H, E, K, Q, M, F, W, L, T, Z, D, P, R, X, Y, S$ (the previous example) delete sequentially keys H, T, S .

Outline

- 1 Red-Black Tree
- 2 2-3-4 Tree
- 3 B Tree
- 4 B+ Tree**

Example 6

To an initially empty B+ tree of order 4 insert sequentially keys 1, 4, 16, 25, 9, 20, 13, 15, 10, 11, 12.

Example 7

From an initially empty B+ tree of order 4 with sequentially inserted keys 1, 4, 16, 25, 9, 20, 13, 15, 10, 11, 12 (the previous example) delete sequentially keys 13, 15, 1.

References I



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