

アルゴリズムの設計と解析

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Contents (L9-中間課題問題)

1. [Syllabus](#) (2017 Syllabus)
2. [L1](#) (Review data structures and algorithms(1))
3. [L2](#) (Review basic algorithm analyses – Divide and Conquer)
4. [L3](#) (Review basic algorithm analyses – Dynamic Programming)
5. [L4](#) (Review Trees – traversal and math expressions)
6. [L5](#) (Trees – AVL Tree, 2-3-4 Tree insertion)
7. [L6](#) (2-3-4 Trees deletion)
8. [L7](#) (Red-black Tree)

1. What is the Divide and Conquer algorithm and take an example to explain
2. What is the Dynamic Programming and take an example to explain
3. Redo Exercise 4.2 and 4.3
4. Proof: a 2-3-4 tree storing n items has height $O(\log_2 n)$ and Redo Ex 5.1
5. What are rotation and merge operations in a 2-3-4 tree deletion procedure?
use examples to explain.
6. State the relation between a red-black tree and a 2-3-4 tree and
Redo Ex 7.2 and do Ex 7.3
7. Summarize the 3 cases in the insertion procedure and
the 3 cases in the deletion procedure of a red-black tree