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Week 6

Data Structures

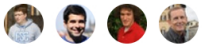
Week 6

Welcome to the course discussion forums! Ask questions, debate ideas, and find classmates who share your goals. Browse popular threads below or other forums in the sidebar.

Go to forum

154 threads · Last post 16 days ago

Binary Search Trees 2



In this module we continue studying binary search trees. We study a few non-trivial applications. We then study the new kind of balanced search trees - Splay Trees. They adapt to the queries dynamically and are optimal in many ways.

Learning Objectives

- Describe how to implement advanced operations using balanced binary search trees
- Describe how splay trees work
- Analyze the running time of operations with splay trees
- Apply amortized analysis to splay trees
- Apply binary search trees in programming challenges
- Develop a balanced binary search tree

Less

Coursera Lab Sandbox BETA

- Easily launch Coursera's preconfigured environment for C++, Java, and Python 3 programming
- Get access to all dependencies (libraries and packages) for VSCode—no local software installation required
- Practice C++, Java, and Python 3 programming, run test cases, and work on assignments from your browser

Open Lab Sandbox

Applications

Video: Applications 10 min Resume

Reading: Slides and External References 10 min

Splay Trees

Video: Splay Trees: Introduction 6 min

Video: Splay Trees: Implementation 7 min

Video: (Optional) Splay Trees: Analysis 10 min

Reading: Slides and External References 10 min

Programming Assignment 4

Practice Quiz: Splay Trees 3 questions

Programming Assignment: Programming Assignment 4: Binary Search Trees 3h Due Sep 6, 1:59 AM CDT