Introduction to Algorithms and Data Structures

Semester 2 Introduction

Welcome back!

In Semester 1, we saw

- Sorting (InsertSort, MergeSort, QuickSort, HeapSort)

- Asymptotic Analysis

- Data Structures (e.g., Lists, Stacks, Queues, RB Trees, Heaps)

- Graph Algorithms (DFS, BFS, Testing Bipartiteness, Topological Sort)

In Semester 2, we will see

- Greedy Algorithms (including Greedy Algorithms on Graphs)

- Dynamic Programming (including applications in Context-Free Grammars)

- Limitations of efficient algorithms (NP-completeness)

- Approximation Algorithms (a little bit)

- Limitations of all algorithms (undecidability)

Lectures

- Tuesdays (Weeks 1-10) at 10:00-10:50, in F21 7 George Square

- Fridays (Weeks 1-5) at 13:10-14:00, in Theatre A, 40 George Square

Besides Lectures

- Tutorials on Weeks 3,4,6,8 and 10.

- Labs on Weeks 2,4,6,7 and 8.

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Assessment in S2

- 3 more Quizzes

- 1 more Coursework Assignment

  - The 1st assignment was mainly coding, the 2nd assignment will be mostly *theory*.

- The Exam in the end.