

MCS/CS 401, Spring 2020

Midterm 2, Topics Outlines

April 14, 2020

- Midterm 1 topics
- hashing, collision resolution by chaining, division method, multiplication method, universal hashing
- hashing with open addressing, linear probing, quadratic probing, double hashing
- dynamic programming: general principles
- rod cutting, longest common subsequence
- greedy algorithms: general principles
- activity selection, knapsack, fractional knapsack
- breadth-first search, depth-first search
- topological sorting
- Prim's algorithm

Chapters and sections covered

Chapters and sections for Midterm 1, Chapter 11 (algorithms only, no Section 11.5), Chapter 15 (except Sections 15.2, 15.5), Sections 16.1 and 16.2, Chapter 22 (except Section 22.5), Chapter 23 (only Prim's algorithm on pages 634-636, with correctness proof as discussed in class).