

# CS3000: Algorithms & Data

## Paul Hand

### Lecture 18:

- Review for Midterm II

Mar 25, 2019

# Dynamic Programming

- How to think about dynamic programming
- Writing recurrences
- Top Down Algorithms
- Bottom Up Algorithms
- Time and Space Complexity
- Adding Additional variables
- Be familiar with problems mentioned in class

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# Graphs

- Basic Definitions
- Representations of Graphs
- Bipartite Graphs and Two Coloring
- Distance between nodes in a graph
- Breadth First Search
  - BFS Tree
- Depth First Search
  - DFS Tree
  - Types of edges (tree, forward, backward, cross)
- Topological Ordering

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