Midterm Review

About that exam

- Monday March 11 in class
- Similar in style to example exam
  - No coding on paper
  - But lots of analyzing code
- Closed-book, etc.

- 100 minute exam

Exam Content

- Content is everything up to and including Binary Search Trees
- Exam will cover almost all material in assignments and labs
  - Except templates, operator overloads
- Exam will cover almost all material in lecture slides
  - Details of exceptions to follow

cmpt225_2stack

- Abstract Data Types
- Data Structures
- Stacks
- Queues
  - Array and Linked List implementations
- Dynamic (heap) versus Static (stack) memory

cmpt225objects, cmpt225_pointers

- Object-oriented design principles
  - Basics of classes
- Pointers
- Memory management
  - Dangling pointers
  - Memory leaks

O-notation and Sorting cmpt225_4onotation

- Methods for analyzing time efficiency
  - O-notation
  - And others
- Best, worst, average case
- Sorting
  - Insertion sort
  - Selection sort

Recursion cmpt225recursive

- Thinking recursively
- Formulating recursive solutions to problems
- Writing recursive functions
- Efficiency of recursive functions
- More sorting
  - MergeSort
  - Quicksort

Trees cmpt225trees

- Definitions
  - Trees, perfect trees, complete trees
- Tree traversals
  - In-order, pre-order, post-order
- Binary search tree
  - Insertion, deletion, search algorithms