

CSCA48 WINTER 2015

LECTURE 3 - STACKS AND QUEUES

University of Toronto Scarborough

January 14, 2015



UNIVERSITY OF
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ADMINISTRATIVE DETAILS

- Exercise 1
 - Due on Friday
 - 4:00pm sharp
 - Remember: auto-marker is picky
 - Questions?
- Design Recipe
- Wing

ABSTRACT DATA TYPES - REVIEW

- ADT are abstract concepts
- Define how we interact with the object, but ignore the underlying implementation
- Encapsulation: Bundling data and operations into higher level objects
- Abstraction: Hiding implementation details

NOT ALL IMPLEMENTATIONS ARE CREATED EQUAL

- We just saw 3 implementations of the Stack ADT
- From the user's point of view, they're identical ... or are they?

SO WHY ARE STACKS SO USEFUL?

- Let's see an example (evaluating an expression)

QUEUES

- Stacks: Last-in First-out (LIFO)
 - A stack of plates
- Queues: First-in First-out (FIFO)
 - A queue (line-up) at a store