

CS 240

Data Structures and Algorithms I

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October 28, 2011

The Course So Far

- Java & programming in general
 - You **will** be asked to read & write code on the midterm
 - No electronic devices allowed during the test
- Big- O notation
 - Formal definition—lends itself to formal proofs
 - Informal analysis—look at a line of code, say it's $O(1)$, $O(n)$, etc.
 - Intuition of what functions grow faster than others—sorting by O
- Stacks
 - Abstract Data Type—the Stack **interface**
 - Methods—push, pop, top/peek, isEmpty, size, their **complexities**
 - Algorithms—balanced parens, postfix evaluation, infix→postfix
 - Implementation—array-based stack, Java's API
- Generics
 - Syntax & use
 - Limitations (e.g., **new** E[] invalid)
 - Generic interfaces