

Wrap-Up



EECS2030: Advanced
Object Oriented Programming
Fall 2017

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What You Learned (1)



- *Procedural Programming in Java*
 - Utilities classes
 - Recursion (implementation, running time, correctness)
- *Data Structures*
 - Arrays
 - Maps and Hash Tables
 - Singly-Linked Lists
 - Stacks and Queues
 - Binary Trees

What You Learned (2)



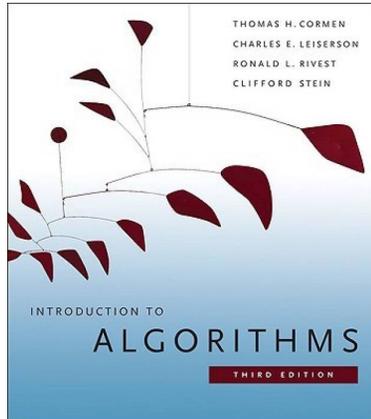
- *Object-Oriented Programming in Java*
 - classes, attributes, encapsulation, objects, reference data types
 - methods: constructors, accessors, mutators, helper
 - dot notation, context objects
 - aliasing
 - inheritance:
 - code reuse
 - expectations
 - static vs. dynamic types
 - rules of substitutions
 - casts and `instanceof` checks
 - polymorphism and method arguments/return values
 - method overriding and dynamic binding: e.g., `equals`
 - abstract classes vs. interfaces
 - generics (vs. collection of `Object`)
 - keywords: `private`, `this`, `protected`, `static`, `extends`, `super`, `abstract`, `implements`

What You Learned (3)



- *Integrated Development Environment (IDE) for Java: Eclipse*
 - Break Point and Debugger
 - Unit Testing using JUnit

Beyond this course... (1)



- *Introduction to Algorithms (3rd Ed.)* by Cormen, *etc.*
- DS by DS, Algo. by Algo.:
 - **Understand** math analysis
 - **Read** pseudo code
 - **Translate** into Java code
 - **Write and pass** JUnit tests

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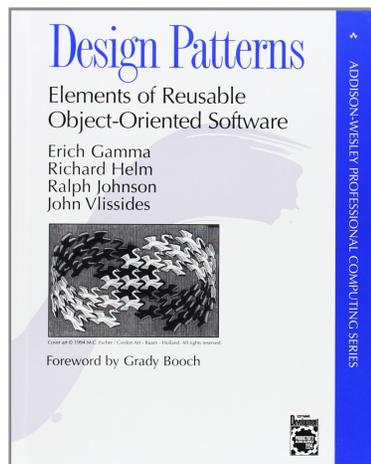
Beyond this course... (3)

Visit my lectures on *EECS3311 Software Design*:

- http://www.eecs.yorku.ca/~jackie/teaching/lectures/index.html#EECS3311_F17
- Design by Contracts
 - Design Patterns
 - Program Verification

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Beyond this course... (2)



- *Design Patterns: Elements of Reusable Object-Oriented Software* by Gamma, *etc.*
- Patter by Pattern:
 - **Understand** the problem
 - **Read** the solution (not in Java)
 - **Translate** into Java code
 - **Write and pass** JUnit tests

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Wish You All the Best

- What you have learned will be **assumed** in EECS2011.
- Logic is your friend: Learn/Review EECS1019/EECS1090.
- Do **not** abandon Java during the break!!
- As ever, feel free to get in touch and let me know how you're doing :D

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