Wrap-Up

EECS2030 B: Advanced
Object Oriented Programming
Fall 2019

CHEN-WEI WANG

What You Learned (1)

- *Procedural Programming in Java*
  - Exceptions
  - Recursion (implementation, running time, correctness)
- *Data Structures*
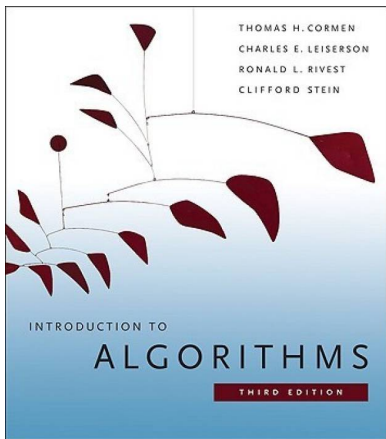 - Arrays
  - Maps and Hash Tables

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`
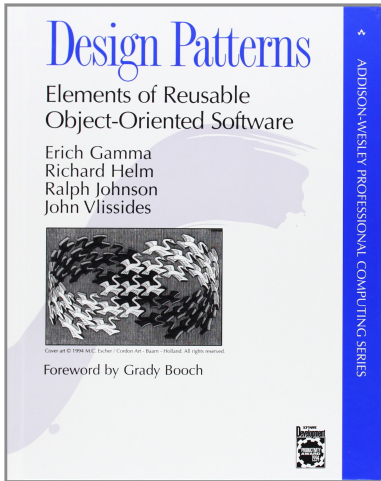   - abstract classes vs. interfaces

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

THOMAS H. CORMEN
CHARLES E. LEISERSON
RONALD L. RIVEST
CLIFFORD STEIN

INTRODUCTION TO
ALGORITHMS
THIRD EDITION

- *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

Beyond this course... (2)

Design Patterns
Elements of Reusable Object-Oriented Software

Erich Gamma
Richard Helm
Ralph Johnson
John Vlissides

Foreword by Grady Booch

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

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!!
- Feel free to get in touch and let me know how you're doing :D
- Exam Review Sessions:
1pm to 3pm	Monday	December 9
12pm to 2pm	Tuesday	December 10
1pm to 3pm	Thursday	December 12

Compliments or Complaints on my teaching?

http://courseevaluations.yorku.ca/