

# Wrap-Up



EECS2030 E&F: Advanced  
Object Oriented Programming  
Fall 2024

CHEN-WEI WANG

# What You Learned (1)

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- ***Procedural Programming in Java***
  - Exceptions
  - Recursion (thinking, implementation, tracing)
- ***Data Structures***
  - Arrays

# What You Learned (2)

- ***Object-Oriented Programming in Java***
  - classes, attributes, objects, reference data types
  - methods: constructors, accessors, mutators, helpers
  - dot notation, context objects
  - aliasing
  - inheritance:
    - code reuse, single-choice principle, cohesion
    - expectations
    - rules of substitutions
    - static vs. dynamic types
    - polymorphism, dynamic binding
    - polymorphic method parameters
    - polymorphic collections
    - polymorphic method return types
    - compilable casts, `ClassCastException`, `instanceof` checks
    - method overriding and dynamic binding: e.g., `equals`

# What You Learned (3)

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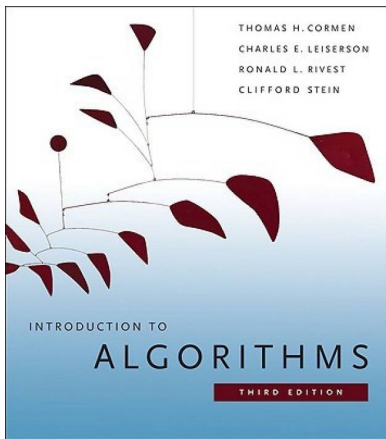
- ***Integrated Development Environment (IDE): Eclipse***
  - Break Point and Debugger
  - Unit Testing using JUnit
  - Test Driven Development (TDD), Regression Testing

[https://www.eecs.yorku.ca/~jackie/teaching/  
lectures/index.html#EECS2030\\_F21](https://www.eecs.yorku.ca/~jackie/teaching/lectures/index.html#EECS2030_F21)

- ***Generics***

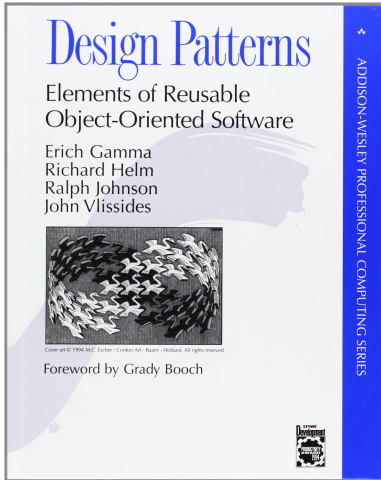
[ Week 10 & 11 ]

# 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

# Beyond this course... (2)



- *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

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- What you have learned will be **assumed** in EECS2101.
- 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