

# Introduction

(1 Introduction)

- Why this book?
  - Based on pre-existing programming knowledge
  - *Assertion*
    - Software design is SDP/SDLC agnostic



CSC 276 Object-oriented Software Design

Slide 1

# Introduction

(2 Introduction to Software Design)

- What is software design?
- What is not software design?
- Approaches for creating a software design?
- Examples to help understand abstraction?
- How does software design fit into a SDP?
- How does selection of SDP affect your software design approach?
- Review of Java OOP



CSC 276 Object-oriented Software Design

Slide 2

## Review What We Know

(3 & 4-OOP Pre-read)

- Pre-read Discussion (pairs)
  - Ch 3 Program Design Criteria
    - What is?
      - Bottom-up approach to software development
      - Separation of concerns
      - Design for reuse
      - Design only what is needed
    - Design models
      - Have you used any?
      - Do you know about any?
  - Ch 4-OOP Case study
    - Questions about java?



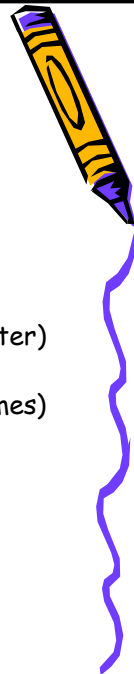
CSC 276 Object-oriented Software Design

Slide 3

## What Have We Learned?

(3 & 4-OOP Post-read)

- Post-read Review
  - ABA\_OOP\_A\_solution.java
    - Program design models; Evaluation of OOP\_A
  - ABA\_OOP\_B\_solution.java (better)
    - Program design models; Evaluation of OOP\_B
  - ABA\_OOP\_C\_solution.java (no dup names)
    - Program design models; Evaluation of OOP\_C



CSC 276 Object-oriented Software Design

Slide 4

## Review What We Know

(5 & 6-OOP Pre-read)

- Pre-read Discussion (pairs)
  - Ch 5 Program Design & Performance
    - What is?
      - Program performance
  - Ch 6-OOP Case Study
    - What is the performance on our case study?



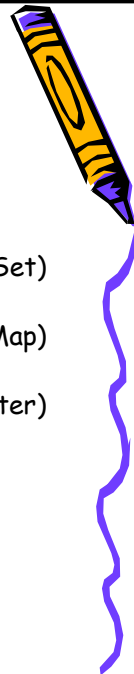
CSC 276 Object-oriented Software Design

Slide 5

## What Have We Learned?

(5 & 6-OOP Post-read)

- Post-read Review
  - ABA\_OOP\_A\_solution.java (use TreeSet)
    - Program design models; Evaluation of OOP\_A
  - ABA\_OOP\_B\_solution.java (phone #, use TreeMap)
    - Program design models; Evaluation of OOP\_B
  - ABA\_OOP\_C\_solution.java (email, better)
    - Program design models; Evaluation of OOP\_C



CSC 276 Object-oriented Software Design

Slide 6

## Review What We Know

(7 & 8-OOP Pre-read)

- Pre-read Discussion (pairs)
  - Ch 7 Program Design & Security
    - What is?
      - Security
    - Security concepts
      - What security concepts should we think about when we write our app code?
  - Ch 8-OOP Case Study
    - What is the security of our case study?



CSC 276 Object-oriented Software Design

Slide 7

## What Have We Learned?

(7 & 8-OOP Post-read)

- Post-read Review
  - Difference between?
    - Information assurance
    - Information security
  - Information security concepts
    - Data input validation
    - Data output validation
    - Exception handling
    - Fail-safe defaults
    - Type-safe languages
  - ABA\_OOP\_A\_solution.java
    - Program design models; Evaluation of OOP\_A
  - ABA\_OOP\_B\_solution.java (more secure)
    - Program design models; Evaluation of OOP\_B



CSC 276 Object-oriented Software Design

Slide 8