

Introduction to Java

- BMI Problem Statement
 - Given a weight and height value entered by a user, compute and display the body mass index (BMI).
- First Java Example
 - BMI_01_Main_NoValidation.java
 - Demo compile; demo run.
 - Walk through code, in detail.
 - Talk about no validation; demo what happens when bad data is entered.
 - Demo Debug as Application.
- Second Java Example
 - BMI_02_Methods_NoValidation.java
 - Demo compile; demo run.
 - Walk through code, in detail.
 - Reminder: what happens when bad data is entered?
 - Demo Debug as Application.

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Slide 1

Introduction to Java (cont'd)

- BMI Problem Statement
 - Given a weight and height value entered by a user, compute and display the body mass index (BMI).
- Third Java Example
 - BMI_03_Methods_Better_NoValidation.java
 - Demo compile; demo run.
 - Walk through code, in detail.
 - Reminder: what happens when bad data is entered?
 - Demo Debug as Application.
- Fourth Java Example
 - BMI_04_SeparateClass_NoValidation.java
 - BMI_04_SeparateClass.java
 - Demo compile; demo run.
 - Walk through code, in detail.
 - Reminder: what happens when bad data is entered?
 - Demo Debug as Application.

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Introduction to Java (cont'd)

- BMI Problem Statement
 - Given a weight and height value entered by a user, compute and display the body mass index (BMI).
- Fifth Java Example
 - BMI_05_Main_NoValidation.java
 - BMI_05_GUISwing_NoValidation.java
 - or
 - BMI_05_GUIJavaFX.java
 - Demo compile; demo run.
 - Note: Only students in MIS 525 will write GUI programs

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Introduction to Java (cont'd)

- Summary of Examples
 - First & Second Examples
 - Bad examples – how NOT to write Java programs
 - Third Example
 - Better than first two examples
 - Fourth Example
 - Best of the first four examples
 - Fifth Example
 - Sample GUI programs
 - From program design perspective
 - Similar in quality to the third example

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Learning to Program

- Simply Java: An Introduction to Java Programming
 - Chapter 1 Programming Is Like Juggling
- Lessons Learned?

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Introduction to Software Development

- Beginning Java Programming: The Object-Oriented Approach
 - Chapter 1 A General Introduction to Programming
- The programming process
 - Input → Process → Output
 - Software development process (SDP)
 - Aka software development Life cycle (SDLC)
 - Algorithms & flowcharts
- Object-oriented programming (sneak preview)
 - Classes and objects
- Programming errors
 - Syntax errors (aka compilation errors)
 - Runtime errors
 - Logic errors (aka semantic errors)

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Introduction to Software Development (cont'd)

- Beginning Java Programming: The Object-Oriented Approach
 - Chapter 1 A General Introduction to Programming
- Principles of software testing
- Software maintenance
 - Reasons to modify software
- Principles of structured programming