

# Program 8 Preview: Enhanced BMI Calculator

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COP3330 – Object Oriented Programming

# Readings

- *Java How to Program (Early Objects), 10th Ed.*, Paul Deitel and Harvey Deitel, Pearson (2015), ISBN-13: 978-0-13-380780-6, ISBN-10: 0-13-380780-6
  - Chapter 12
- Program 2 Assignment and Solution

# Outline

- Caveats
- Program 8 Task Overview
- Input File Format
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- Program Requirements and Operation
- JFileChooser details
- JOptionPane Confirmation dialogs
- JOptionPane Message dialogs
- NetBeans Project Setup
- Program Testing
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# Caveats

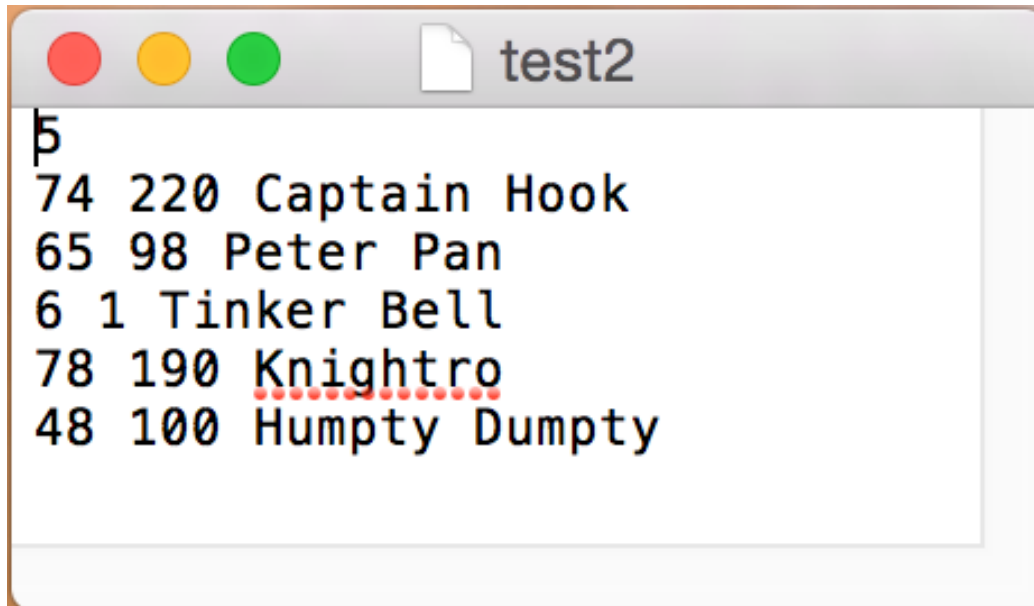
- This presentation summarizes and supplements the assignment
- If there is any conflict, the instructions and specifications in the assignment control

# Program 8 Task Overview

- Use *BmiRecord* class from solution for Program 2
- Use a *JFileChooser* to select the input file
- Show the results in a *JOptionPane* **confirmation** dialog
  - Allow for choosing another input file
  - Allow for ending the session
- When session ends, a *JOptionPane* **message** dialog appears
  - Dismiss by selecting the “OK” button
- *Full details will be found in the assignment description*

# Input File Format

- Same as for Program 2



```
5
74 220 Captain Hook
65 98 Peter Pan
6 1 Tinker Bell
78 190 Knightro
48 100 Humpty Dumpty
```

# Required Calculations

- Same as for Program 2

- BMI Score:

$$\text{BMI} = ( \text{weight} * 703.0 ) / ( \text{height} * \text{height} )$$

- BMI Evaluation:

`bmi < 18.5 : "Underweight";`

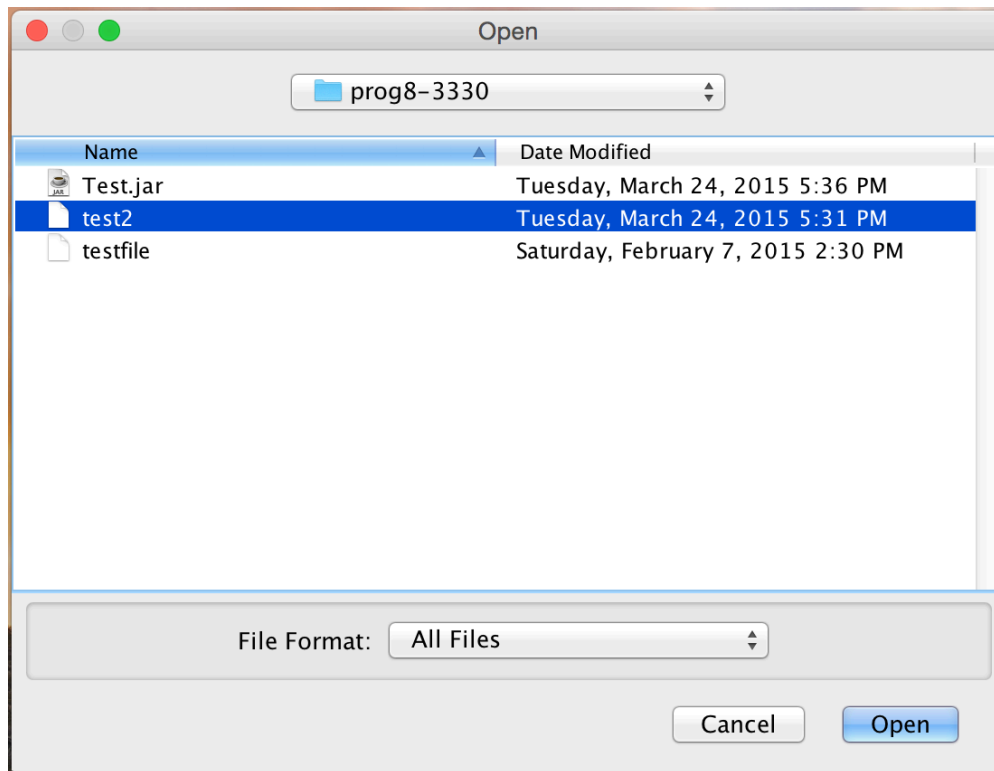
`18.5 <= bmi <= 24.9 : "Normal";`

`25.0 <= bmi <= 29.9 : "Overweight";`

`30.0 <= bmi : "Obese";`

# Program Requirements and Operation (1)

- When program is run, it automatically launches a JFileChooser input file selection dialog

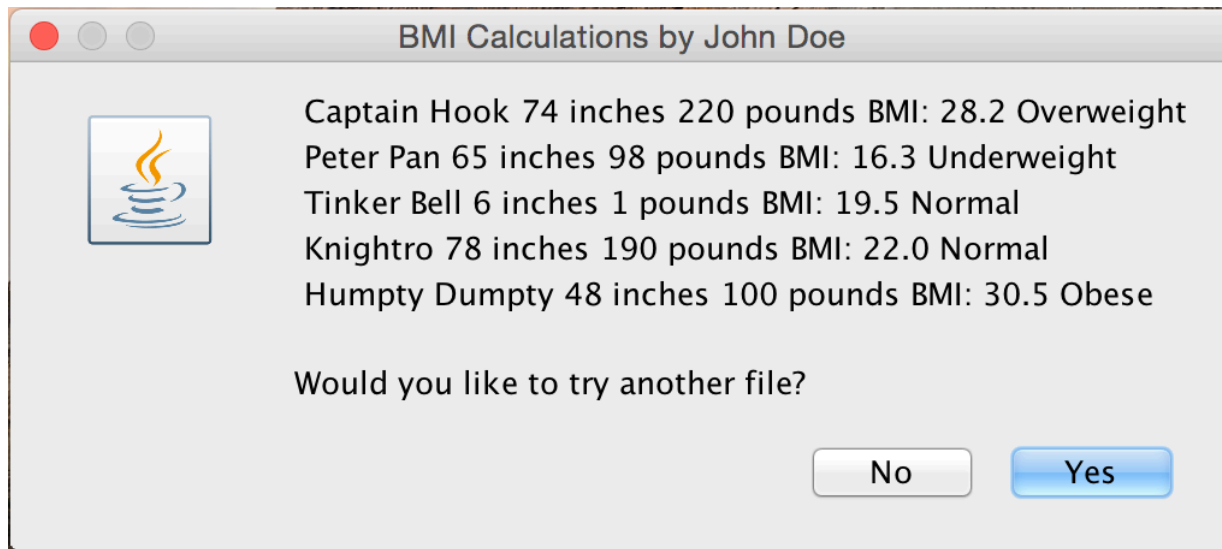


*Note: No other GUI component should appear*



# Program Requirements and Operation (2)

- When “Open” button is selected for a properly formatted file, the file is read, the calculations are performed, and the report appears in a JOptionPane confirmation dialog in the following format



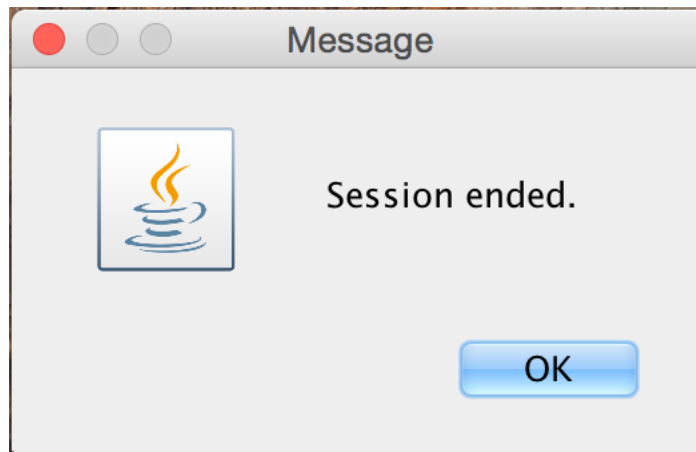
## Notes:

- 1. Your name must appear in the title bar*
- 2. Data is not justified*
- 3. Options must be only “Yes” and “No”.*

**IMPORTANT: “Yes” option must bring up the file chooser dialog again**

# Program Requirements and Operation (3)

- When “No” button is selected, the program must show an *end-of-session JOptionPane message* dialog.
- Same message must also appear when “Cancel” is selected from file chooser dialog



# JFileChooser Details

- Use no-argument constructor: *“new JFileChooser()”*

## showOpenDialog

```
public int showOpenDialog(Component parent)
    throws HeadlessException
```

Pops up an "Open File" file chooser dialog. Note that the text that appears in the approve button is determined by the L&F.

### Parameters:

parent - the parent component of the dialog, can be null; see showDialog for details

### Returns:

the return state of the file chooser on popdown:

- JFileChooser.CANCEL\_OPTION
- JFileChooser.APPROVE\_OPTION
- JFileChooser.ERROR\_OPTION if an error occurs or the dialog is dismissed

### Throws:

HeadlessException - if GraphicsEnvironment.isHeadless() returns true.

### See Also:

GraphicsEnvironment.isHeadless(), showDialog(java.awt.Component, java.lang.String)

# JOptionPane Confirmation Dialogs

## showConfirmDialog

```
public static int showConfirmDialog(Component parentComponent,  
                                   Object message,  
                                   String title,  
                                   int optionType)  
    throws HeadlessException
```

Brings up a dialog where the number of choices is determined by the optionType parameter.

### Parameters:

parentComponent - determines the Frame in which the dialog is displayed; if null, or if the parentComponent has no Frame, a default Frame is used

message - the Object to display

title - the title string for the dialog

optionType - an int designating the options available on the dialog: YES\_NO\_OPTION, YES\_NO\_CANCEL\_OPTION, or OK\_CANCEL\_OPTION

### Returns:

an int indicating the option selected by the user

### Throws:

HeadlessException - if GraphicsEnvironment.isHeadless returns true

### See Also:

GraphicsEnvironment.isHeadless()

# JOptionPane Message Dialogs

## showMessageDialog

```
public static void showMessageDialog(Component parentComponent,  
                                   Object message)  
    throws HeadlessException
```

Brings up an information-message dialog titled "Message".

### Parameters:

`parentComponent` - determines the Frame in which the dialog is displayed; if null, or if the `parentComponent` has no Frame, a default Frame is used

`message` - the Object to display

### Throws:

`HeadlessException` - if `GraphicsEnvironment.isHeadless` returns true

### See Also:

`GraphicsEnvironment.isHeadless()`

# NetBeans Project Setup

1. Create a Java application project called "*BMIOption*" in NetBeans. Edit the *packaging properties* so that the source (.java) files will be included in the JAR file.
2. Create a Java package called "*bmi*" in this project.
3. Create a Java class file called "*BmiRecord*" in this package. Then type into this file the contents of the "BmiRecord" class file that you find in the solution that is posted for Program 2. The file in your BMIOption project should look exactly the same.
4. Create another Java class file called "*BmiOption*" in the same package. Add a *stub main method* to this class file.
5. Edit the *run properties* of the project's properties to select "*BmiOption*" as the main class to run.

# Program Testing

- A. In NetBeans, *clean and build* your project and make sure it runs correctly when you run it within NetBeans.
- B. Create a folder called *"prog8"* on your desktop and put a copy of your *BMIOption.jar* file in this folder.
- C. Now, open a *command window and navigate to the prog8* folder on your desktop. For most systems, you should be able to get there by entering: "cd Desktop\prog8" on a Windows machine and "cd Desktop/prog8" on a Mac/Linux machine.
- D. Now, run your program using the command: *"java -jar BmiOption.jar"*. Your program should run. If it does not, fix the problem and keep testing until you meet with success.

# Assignment Logistics

- Title: Enhanced BMI Calculator
- Due date: April 3, 2015 at 11:59 pm
- What to submit: Executable JAR named [BmiOption.jar](#)
  - All of your source code must be in the JAR file you submit
  - Don't forget **headers** with your name on all source files
  - Grading **rubric** is already included with the assignment