

## Lesson - Week 13:

### Course Objectives Alignment:

<<\* The Course Objectives (CO##) are listed in the Course Outline \*>>

- CO01 – You will be working on a Project Assignment which will require you to practice structured design techniques.
- CO02 – You will be working on a Project Assignment this week.
- CO03 – You will use your IDE to work on an Assignment this week using NetBeans.
- CO04 – Chapter 16 includes the topics of Inheritance, Polymorphism, Abstract Classes, Interfaces, and Event-Driven Programming using JavaFX Libraries.
- CO05 – We will cover Event-Driven programming in this chapter. You will be coding events to respond to the user interacting to JavaFX UI Controls such as buttons.
- CO06 – You will be working on a Project Assignment this week.
- CO07 – Key terms are found throughout the chapter.

### Read in Your Textbooks:

- Chapter 16 – sections 16.1 – 16.2

The JavaFX Library is no longer included in the standard distribution of OpenJavaJDK so we must install them as an add-on. NetBeans unfortunately does not make it easy to create a JavaFX project even though it appears as an option in the New Project Wizard. We must first build a standard project, add the JavaFX libraries which we will download once onto our computers into that project, and then save it as a template. We will then use the template project to create other projects in NetBeans when we need to use JavaFX. I created help documents on how to download and install JavaFX and then how to build a template project.

### Discussion Questions:

Muddiest Points Forum - Post to this forum as often as you need to when you run into trouble understanding a concept, something in the book, or just have a question. You may assist your classmates by answering. Remember, emailing me is the fastest way to get a response from your instructor but your classmates may be able to offer you help when they are in the course.

### Exam #2:

If you have not already done so, start the Exam on Chapters 13 – 15 any time before 10PM on Tuesday, 11/28. Once you start the Exam, it must be finished in one sitting.

## **zyBooks Participation Assignment:**

Look under the Assignments tab in your zyBooks textbook for "Participation Assignment for Week 13 – Chapter 16".

## **Project Assignment:**

Copy the JavaFX template project into a new project called ProjectWeek13 and refactor-rename the main class Conversions.

Create a JavaFX interface that converts distances from US measurements (4 different fields for miles, yards, feet, and inches with 4 buttons) to metric (at least 2 different conversion values in separate, labeled fields). Below that in the same form converts weights (tons, pounds, ounces) from US weights to metric (at least two different values). Finally, create a section of the form to convert volumes from US volumes (gallons, cups, tablespoons, and teaspoons) to metric (two values). Allow the user to enter decimal amounts of each value to be converted.

### **BONUS:**

Allow the user to select the type of measure with a radio button for each section to match what is in the parenthesis rather than separate input fields and buttons for each type of measurement (distance, weights, and volume).

You will use the Project Assignment Template file to create a Word Processing document for submitting your work (template file also in the Content folder for the week). You will name your Project Assignment Document as "yourlastname-CST141FA23-ProjectForW13" as either a .doc, .docx, or .pdf. Ex. Smith-CST141FA23-ProjectForW13. Submit the file under the Project for Week 13 Assignment folder in BrightSpace. The assignment is due by 11:59PM on 12/10.