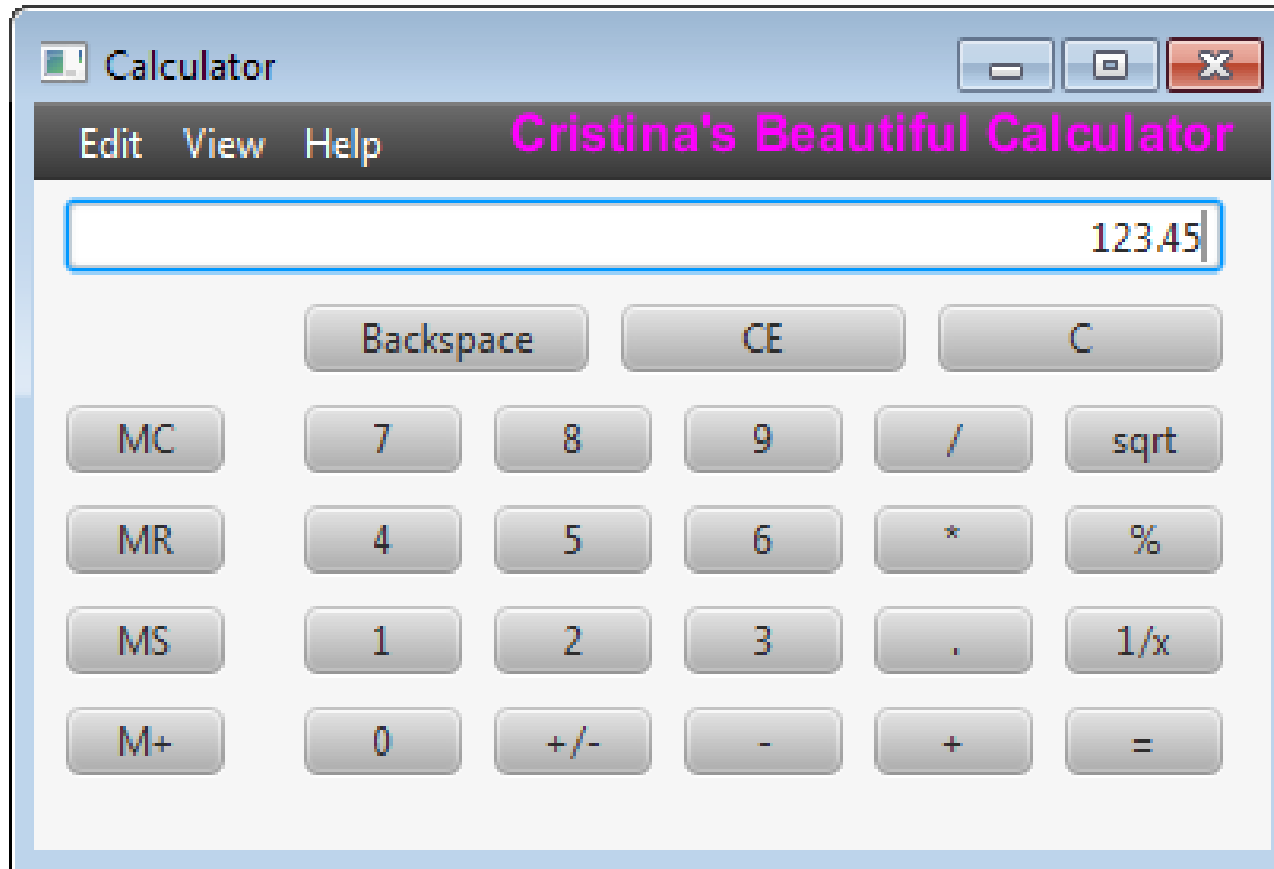


Very Short Introduction To JavaFX



Outline

- `javafx.application.Application` class
- Node-Centric UI
- `javafx.stage.Stage`
- `javafx.scene.Scene`
- `javafx.scene.Node`
- Builder Classes
- Event Handlers
- Bibliography

javafx.application.Application class

- Methods: launch(), init(), start(), stop(), getParameters(), ...
- main() passes the command line args to Application.launch()
- the framework invokes the start() method to begin
- include C:\Program Files (x86)\Java\jdk1.7.0_51\jre\lib\jfxrt.jar in your project

Node-Centric UI

```
import javafx.application.Application;
public class Calculator extends Application {
    public static void main(String[] args)
    { launch(args); }
    @Override
    public void start(Stage primaryStage) {
//create Scenes and Nodes
    }
```

javafx.stage.Stage

- Available when the `start()` method is invoked
- Its realization depends on the platform on which it is deployed (e.g. a window on a desktop computer, a rectangular area called *applet* in a web browser)
- Similar to Java Swing API `JFrame` or `JDialog`

javafx.scene.Scene

- A content pane capable of holding several Node objects
- A scene has a **scene graph = a tree data structure** that models all graphical objects of the application

<http://docs.oracle.com/javafx/2/scenegraph/jfxpub-scenegraph.htm>

javafx.scene.Node

- The fundamental base class of all the components rendered on the scene:
 - UI controls
 - Shapes
 - Text (a type of shape)
 - Images
 - Media players
 - Embedded browsers
 - Custom UI components

Builder Classes

- Declarative code that defines the user interface

```
Text text = TextBuilder.create()  
    .layoutX(150)  
    .layoutY(15)  
    .text("Cristina's Beautiful Calculator")  
    .fill(Color.MAGENTA)  
    .font(Font.font("SansSerif", FontWeight.BOLD,  
                                                            16))  
    .build();
```


Event Handlers

```
button.setOnMouseClicked(calcEngine);
```

```
class CalculatorEngine implements  
EventHandler<MouseEvent> {  
    AdvancedCalculator parent;  
  
    @Override  
    public void handle(MouseEvent arg0) {  
        Button clickedButton = (Button) arg0.getSource();  
        ... } }
```

Bibliography

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by James Weaver, Weiqi Gao, Stephen Chin, Dean Iverson, Johan Vos
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