Introduction to JavaFX
JavaFX

- Designed for rich client applications
  - Graphics, UI’s, video, audio, etc.
- Java APIs
  - *Not* to be confused with JavaFX 1.x, which is a scripting language, not a Java API
  - Java 8-10, integrated with JDK
  - Java 11-15, JavaFX is separate, and must be installed separately
- Replaces Swing
- JavaFX HelloWorld
JavaFX

- **Extend** `javafx.application.Application`
  - **Override** the `start()` method
- **Stage**: the window
- **Scene**: container for a scene graph
- **Node**: object or group of objects in scene
- **Pane**: organizer of nodes in scene graph:
  - `FlowPane`, `TilePane`, `GridPane`, `HBox`, `VBox`, etc.

```
javafx.stage.Stage
```
```
javafx.scene.Scene
```
```
javafx.scene.Group
```
```
root
```
```
Node
```
```
Node
```
Java FX Scene Graph

Tree of nodes, with a single ‘branch’ at the root
- branch (may have children e.g. Group, Region)
- leaf (may not have children e.g. Rectangle, Circle)

Copyright Oracle (http://docs.oracle.com/javafx/2/scenegraph/jfxpub-scenegraph.htm)
Nodes and Properties

Can set node properties programmatically:
Text message = new Text("Hello");
message.setFont(Font.font("Tahoma", FontWeight.NORMAL, 40));
message.setFill(Color.RED);

or declaratively using FXML / CSS:
#text {
   -fx-font-family: Tahoma, sans-serif;
   -fx-font-style: normal;
   -fx-font-size: 40;
   -fx-fill: red;
}