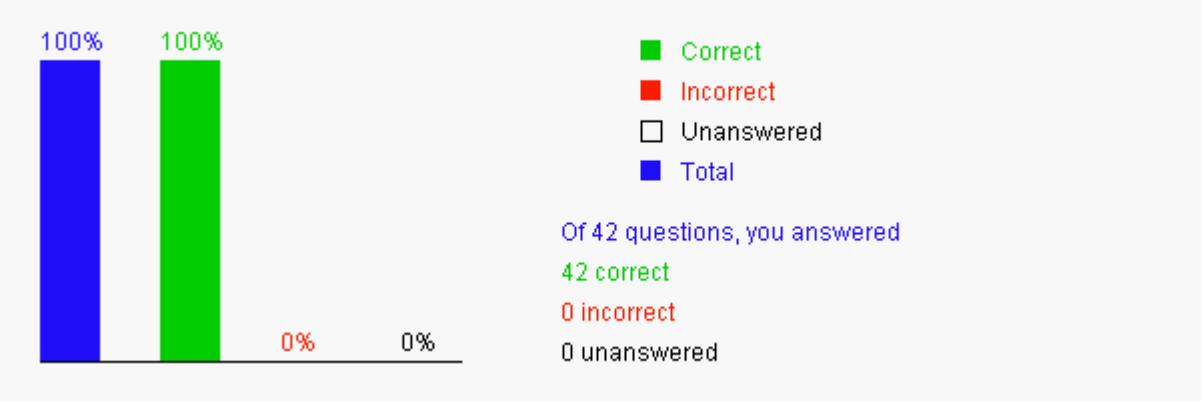
This quiz is for students to practice. A large number of additional quiz is available for instructors using Quiz Generator from the Instructor's Resource Website.
Videos for Java, Python, and C++ can be found at https://yongdanielliang.github.io/revelvideos.html.

Chapter 16 JavaFX UI Controls and Multimedia



Please send suggestions and errata to Dr. Liang at y.daniel.liang@gmail.com. Indicate which book and edition you are using. Thanks!

Section 16.2 Labeled and Label

16.1 To create a label with the specified text, use _____.

- A. new Labelled();
- B. new Label();
- C. new Labelled(text);
- D. new Label(text);

Your answer is correct

16.2 To set a red color for the text in the label lbl, use _____.

- A. lbl.setFill(Color.red);
- B. lbl.setTextFill(Color.red);
- C. lbl.setFill(Color.RED);
- D. lbl.setTextFill(Color.RED);

Your answer is correct

16.3 _____ are properties in Labelled.

- [x] A. alignment
- [x] B. contentDisplay
- [x] C. graphic
- [x] D. text
- [x] E. underline

Your answer is correct

16.4 To set the node to the right of the text in a label lbl, use _____.

- A. lbl.setContentDisplay(ContentDisplay.TOP);
- B. lbl.setContentDisplay(ContentDisplay.BOTTOM);
- C. lbl.setContentDisplay(ContentDisplay.LEFT);
- D. lbl.setContentDisplay(ContentDisplay.RIGHT);

Your answer is correct

Section 16.3 Button

16.5 _____ is a superclass for Button.

- [ ] A. Label
- [x] B. Labelled
- [x] C. ButtonBase
- [x] D. Control
- [x] E. Node

Your answer is correct

16.6 _____ is a superclass for Label.

- [ ] A. Scene
- [x] B. Labelled
- [ ] C. ButtonBase
- [x] D. Control
- [x] E. Node

Your answer is correct 

16.7 The setOnAction method is defined in _____.

- ( ) A. Label
- ( ) B. Labelled
- ( ) C. Node
- (•) D. ButtonBase
- ( ) E. Button

Your answer is correct 

16.8 Analyze the following code:

```
import javafx.application.Application;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.layout.HBox;
import javafx.stage.Stage;

public class Test extends Application {
  @Override // Override the start method in the Application class
  public void start(Stage primaryStage) {
    HBox pane = new HBox(5);
    Image usIcon = new Image("http://www.cs.armstrong.edu/liang/image/usIcon.gif");
    Button bt1 = new Button("Button1", new ImageView(usIcon));
    Button bt2 = new Button("Button2", new ImageView(usIcon));
    pane.getChildren().addAll(bt1, bt2);

    Scene scene = new Scene(pane, 200, 250);
    primaryStage.setTitle("Test"); // Set the stage title
    primaryStage.setScene(scene); // Place the scene in the stage
    primaryStage.show(); // Display the stage
  }

  /**
   * The main method is only needed for the IDE with limited JavaFX
   * support. Not needed for running from the command line.
   */
  public static void main(String[] args) {
    launch(args);
  }
}
```

- (•) A. Two buttons displayed with the same icon.
- ( ) B. Only bt2 displays the icon and bt1 does not display the icon.
- ( ) C. Only bt1 displays the icon and bt2 does not display the icon.
- ( ) D. Two buttons displayed with different icons.

Your answer is correct 
Explanation: Since images can be shared, both bt1 and bt2 display the same icon.

16.9 Analyze the following code:

```
import javafx.application.Application;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.layout.StackPane;
import javafx.stage.Stage;

public class Test extends Application {
  @Override // Override the start method in the Application class
  public void start(Stage primaryStage) {
    StackPane pane = new StackPane();
    Button bt1 = new Button("Java");
    Button bt2 = new Button("Java");
    Button bt3 = new Button("Java");
    Button bt4 = new Button("Java");
    pane.getChildren().addAll(bt1, bt2, bt3, bt4);
```

```
    Scene scene = new Scene(pane, 200, 250);
    primaryStage.setTitle("Test"); // Set the stage title
    primaryStage.setScene(scene); // Place the scene in the stage
    primaryStage.show(); // Display the stage
  }

  /**
   * The main method is only needed for the IDE with limited JavaFX
   * support. Not needed for running from the command line.
   */
  public static void main(String[] args) {
    launch(args);
  }
}
```

- (●) A. One button is displayed with the text "Java".
- ( ) B. Two buttons are displayed with the same text "Java".
- ( ) C. Three buttons are displayed with the same text "Java".
- ( ) D. Four buttons are displayed with the same text "Java".

Your answer is correct 
Explanation: Because you are using a StackPane.

16.10 Analyze the following code:

```
import javafx.application.Application;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.layout.Pane;
import javafx.scene.layout.FlowPane;
import javafx.stage.Stage;

public class Test extends Application {
  @Override // Override the start method in the Application class
  public void start(Stage primaryStage) {
    Pane pane = new FlowPane();
    Button bt1 = new Button("Java");
    Button bt2 = new Button("Java");
    Button bt3 = new Button("Java");
    Button bt4 = new Button("Java");
    pane.getChildren().addAll(bt1, bt2, bt3, bt4);

    Scene scene = new Scene(pane, 200, 250);
    primaryStage.setTitle("Test"); // Set the stage title
    primaryStage.setScene(scene); // Place the scene in the stage
    primaryStage.show(); // Display the stage
  }

  /**
   * The main method is only needed for the IDE with limited JavaFX
   * support. Not needed for running from the command line.
   */
  public static void main(String[] args) {
    launch(args);
  }
}
```

- ( ) A. One button is displayed with the text "Java".
- ( ) B. Two buttons are displayed with the same text "Java".
- ( ) C. Three buttons are displayed with the same text "Java".
- (●) D. Four buttons are displayed with the same text "Java".

Your answer is correct 

Section 16.4 CheckBox

16.11 _____ checks whether the CheckBox chk is selected.

- ( ) A. chk.getSelected()
- ( ) B. chk.selected()
- (●) C. chk.isSelected().
- ( ) D. chk.select()

Your answer is correct 

16.12 Which of the following statements are true?

- [x] A. CheckBox inherits from ButtonBase.
- [ ] B. CheckBox inherits from Button.

- [x] C. CheckBox inherits from Labelled.
- [x] D. CheckBox inherits from Control.
- [x] E. CheckBox inherits from Node.

Your answer is correct 

Section 16.5 RadioButton

16.13 Which of the following statements are true?

- [x] A. RadioButton inherits from ButtonBase.
- [ ] B. RadioButton inherits from Button.
- [x] C. RadioButton inherits from Labelled.
- [x] D. RadioButton inherits from Control.
- [x] E. RadioButton inherits from Node.

Your answer is correct 

16.14 _____ checks whether the RadioButton rb is selected.

- ( ) A. rb.getSelected()
- ( ) B. rb.selected()
- (•) C. rb.isSelected().
- ( ) D. rb.select()

Your answer is correct 

16.15 Analyze the following code:

```
import javafx.application.Application;
import javafx.scene.Scene;
import javafx.scene.control.RadioButton;
import javafx.scene.control.ToggleGroup;
import javafx.scene.layout.FlowPane;
import javafx.scene.layout.Pane;
import javafx.stage.Stage;

public class Test extends Application {
  @Override // Override the start method in the Application class
  public void start(Stage primaryStage) {
    Pane pane = new FlowPane();

    ToggleGroup group = new ToggleGroup();
    RadioButton rb1 = new RadioButton("Java");
    RadioButton rb2 = new RadioButton("C++");
    pane.getChildren().addAll(rb1, rb2);

    Scene scene = new Scene(pane, 200, 250);
    primaryStage.setTitle("Test"); // Set the stage title
    primaryStage.setScene(scene); // Place the scene in the stage
    primaryStage.show(); // Display the stage
  }

  /**
   * The main method is only needed for the IDE with limited JavaFX
   * support. Not needed for running from the command line.
   */
  public static void main(String[] args) {
    launch(args);
  }
}
```

- ( ) A. The program displays two radio buttons. The two radio buttons are grouped.
- ( ) B. The program displays one radio button with text Java.
- (•) C. The program displays two radio buttons. The two radio buttons are not grouped.
- ( ) D. The program displays one radio button with text C++.

Your answer is correct 

Explanation: To group the two use rb1.setToggleGroup(group); rb2.setToggleGroup(group);

Section 16.6 TextField

16.16 Which of the following statements are true?

- [x] A. TextField inherits from TextInputControl.
- [ ] B. TextField inherits from ButtonBase.
- [ ] C. TextField inherits from Labelled.

- [x] D. TextField inherits from Control.
- [x] E. TextField inherits from Node.

Your answer is correct 

16.17 The properties _____ can be used in a TextField.

- [x] A. text
- [x] B. editable
- [x] C. alignment
- [x] D. prefColumnCount
- [x] E. onAction

Your answer is correct 

16.18 Which of the following statements are true?

- [x] A. You can specify a horizontal text alignment in a text field.
- [x] B. You can specify the number of columns in a text field.
- [x] C. You can disable editing on a text field.
- [x] D. You can create a text field with a specified text.

Your answer is correct 

16.19 The method _____ gets the contents of the text field tf.

- ( ) A. tf.getText(s)
- (•) B. tf.getText()
- ( ) C. tf.getString()
- ( ) D. tf.findString()

Your answer is correct 

16.20 Which of the following statements are true?

- [x] A. PasswordField inherits from TextInputControl.
- [x] B. PasswordField inherits from TextField.
- [ ] C. PasswordField inherits from Labelled.
- [x] D. PasswordField inherits from Control.
- [x] E. PasswordField inherits from Node.

Your answer is correct 

Section 16.7 TextArea

16.21 The method _____ appends a string s into the text area ta.

- ( ) A. ta.setText(s)
- (•) B. ta.appendText(s)
- ( ) C. ta.append(s)
- ( ) D. ta.insertText(s)

Your answer is correct 

16.22 Which of the following statements are true?

- [ ] A. You can specify a horizontal text alignment in a text area.
- [x] B. You can specify the number of columns in a text area.
- [x] C. You can disable editing on a text area.
- [x] D. You can create a text field with a specified text area.
- [x] E. You can specify the number of rows in a text area.

Your answer is correct 

16.23 To wrap a line in a text area ta, invoke _____.

- ( ) A. ta.setLineWrap(false)
- ( ) B. ta.setLineWrap(true)
- ( ) C. ta.WrapLine()
- ( ) D. ta.wrapText()

- (●) E. ta.setWrapText(true)

Your answer is correct 

16.24 To wrap a line in a text area jta on words, invoke _____.

- ( ) A. jta.setWrapStyleWord(false)
- (●) B. jta.setWrapStyleWord(true)
- ( ) C. jta.wrapStyleWord()
- ( ) D. jta.wrapWord()

Your answer is correct 

16.25 Which of the following statements are true?

- [x] A. TextArea inherits from TextInputControl.
- [ ] B. TextArea inherits from TextField.
- [ ] C. TextArea inherits from Labelled.
- [x] D. TextArea inherits from Control.
- [x] E. TextArea inherits from Node.

Your answer is correct 

Section 16.8 ComboBox

16.26 How many items can be added into a ComboBox object?

- ( ) A. 0
- ( ) B. 1
- ( ) C. 2
- (●) D. Unlimited

Your answer is correct 

16.27 How many items can be selected from a ComboBox at a time?

- ( ) A. 0
- (●) B. 1
- ( ) C. 2
- ( ) D. Unlimited

Your answer is correct 

16.28 _____ returns the selected item on a ComboBox cbo.

- ( ) A. cbo.getSelectedIndex()
- ( ) B. cbo.getSelectedItem()
- ( ) C. cbo.getSelectedIndices()
- ( ) D. cbo.getSelectedItems()
- (●) E. cbo.getValue()

Your answer is correct 

16.29 The method _____ adds an item s into a ComboBox cbo.

- ( ) A. cbo.add(s)
- ( ) B. cbo.addChoice(s)
- ( ) C. cbo.addItem(s)
- ( ) D. cbo.addObject(s)
- (●) E. cbo.getItems().add(s)

Your answer is correct 

16.30 Which of the following statements are true?

- [x] A. ComboBox inherits from ComboBoxBase.
- [ ] B. ComboBox inherits from ButtonBase.
- [ ] C. ComboBox inherits from Labelled.
- [x] D. ComboBox inherits from Control.
- [x] E. ComboBox inherits from Node.

Your answer is correct 

16.31 You can use the _____ properties in a ComboBox.

- [x] A. value
- [x] B. editable
- [x] C. onAction
- [x] D. items
- [x] E. visibleRowCount

Your answer is correct 

Section 16.9 Lists

16.32 _____ are properties for a ListView.

- [x] A. items
- [x] B. orientation
- [x] C. selectionModel
- [ ] D. visibleRowCount
- [ ] E. onAction

Your answer is correct 

16.33 Which of the following statements are true?

- [ ] A. ListView inherits from ComboBoxBase.
- [ ] B. ListView inherits from ButtonBase.
- [ ] C. ListView inherits from Labelled.
- [x] D. ListView inherits from Control.
- [x] E. ListView inherits from Node.

Your answer is correct 

16.34 The statement for registering a listener for processing list view item change is _____.

- ( ) A. lv.getItems().addListener(e -> {processStatements});
- ( ) B. lv.addListener(e -> {processStatements});
- (•) C. lv.getSelectionModel().selectedItemProperty().addListener(e -> {processStatements});
- ( ) D. lv.getSelectionModel().addListener(e -> {processStatements});

Your answer is correct 

Section 16.10 ScrollBar

16.35 _____ are properties of ScrollBar.

- [x] A. value
- [x] B. min
- [x] C. max
- [x] D. orientation
- [x] E. visibleAmount

Your answer is correct 

16.36 The statement for registering a listener for processing scroll bar value change is _____.

- ( ) A. sb.addListener(e -> {processStatements});
- ( ) B. sb.getValue().addListener(e -> {processStatements});
- (•) C. sb.valueProperty().addListener(e -> {processStatements});
- ( ) D. sb.getItems().addListener(e -> {processStatements});

Your answer is correct 

Section 16.11 Slider

16.37 _____ are properties of Slider.

- [x] A. value
- [x] B. min
- [x] C. max

- [x] D. orientation
- [x] E. visibleAmount

Your answer is correct 

16.38 The statement for registering a listener for processing slider change is _____.

- ( ) A. sl.addListener(e -> {processStatements});
- ( ) B. sl.getValue().addListener(e -> {processStatements});
- (•) C. sl.valueProperty().addListener(e -> {processStatements});
- ( ) D. sl.getItems().addListener(e -> {processStatements});

Your answer is correct 

Section 16.13 Video and Audio

16.39 Which of the following statements are true?

- [x] A. A Media can be shared by multiple MediaPlayer.
- [x] B. A MediaPlayer can be shared by multiple MediaView.
- [ ] C. A MediaView can be placed into multiple Pane.
- [x] D. A Media can be downloaded from a URL.

Your answer is correct 

16.40 You can use the methods _____ to control a MediaPlayer.

- [ ] A. start().
- [ ] B. stop().
- [x] C. pause().
- [x] D. play().

Your answer is correct 

16.41 You can use the properties _____ to control a MediaPlayer.

- [x] A. autoPlay
- [x] B. currentCount
- [x] C. cycleCount
- [x] D. mute
- [x] E. volume

Your answer is correct 

16.42 You can use the properties _____ in a MediaView.

- [x] A. x
- [x] B. y
- [x] C. mediaPlayer
- [x] D. fitWidth
- [x] E. fitHeight

Your answer is correct