

Chapter 16. JavaFX UI Controls & Multimedia**Objectives:**

To create graphical user interfaces with various user-interface controls (§§16.2–16.11).

To view and play video and audio using the **Media**, **MediaPlayer**, and **MediaView**(§16.13).

Problem A

In this exercise you need to create a system for a Coffee Shop.

Use UI controls so user could:

- 1) Choose a drink (latte, americano, cappuccino, black tea, green tea). 1 option only.
- 2) Choose the milk type(whole milk/soy milk/almond milk/no milk). 1 option only.
- 3) Choose add(sugar/extra hot/extra milk/straw/napkins). Multiple choice available.
- 4) Place an order by clicking on the button and see the Text Fields of their choice.

Sample:

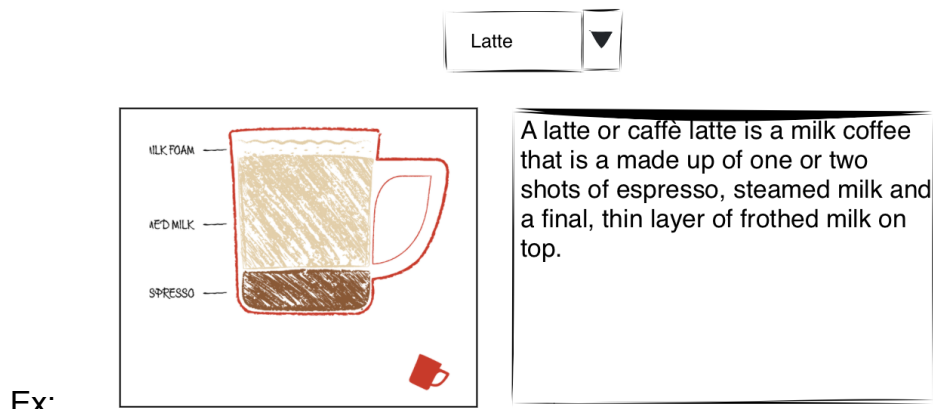
Start view:	After Click():
<div style="text-align: center; font-style: italic; font-weight: bold; margin-bottom: 20px;">My Coffee Shop</div> <div style="text-align: center; margin-bottom: 10px;">Drink:</div> <div style="display: flex; justify-content: center; align-items: center; margin-bottom: 20px;"> <div style="border: 1px solid black; padding: 5px; margin-right: 5px;">Latte</div> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;">▼</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Milk option:</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div><input type="radio"/> Whole Milk</div> <div><input checked="" type="radio"/> Almond Milk</div> <div><input type="radio"/> No Milk</div> </div> </div> <div style="width: 45%;"> <p>Add:</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div><input type="checkbox"/> Sugar</div> <div><input checked="" type="checkbox"/> Extra Hot</div> <div><input type="checkbox"/> Extra Milk</div> </div> </div> </div> <div style="text-align: center; margin: 20px 0;"> <div style="border: 2px solid black; padding: 5px; display: inline-block;">Place Order</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> </div>	<div style="text-align: center; font-style: italic; font-weight: bold; margin-bottom: 20px;">My Coffee Shop</div> <div style="text-align: center; margin-bottom: 10px;">Drink:</div> <div style="display: flex; justify-content: center; align-items: center; margin-bottom: 20px;"> <div style="border: 1px solid black; padding: 5px; margin-right: 5px;">Latte</div> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;">▼</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Milk option:</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div><input type="radio"/> Whole Milk</div> <div><input checked="" type="radio"/> Almond Milk</div> <div><input type="radio"/> No Milk</div> </div> </div> <div style="width: 45%;"> <p>Add:</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div><input type="checkbox"/> Sugar</div> <div><input checked="" type="checkbox"/> Extra Hot</div> <div><input type="checkbox"/> Extra Milk</div> </div> </div> </div> <div style="text-align: center; margin: 20px 0;"> <div style="border: 2px solid black; padding: 5px; display: inline-block;">Place Order</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 1px solid black; padding: 2px 5px;">Latte</div> <div style="border: 1px solid black; padding: 2px 5px;">Almond Milk</div> <div style="border: 1px solid black; padding: 2px 5px;">Extra Hot</div> </div>

Problem B

Cont. of the Problem A

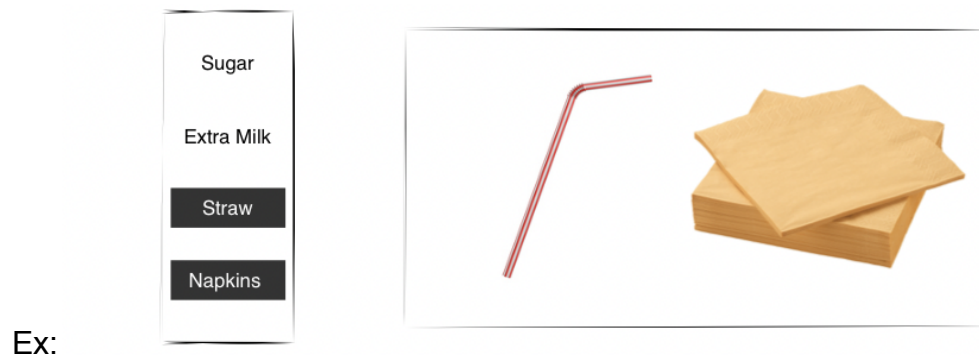
Now, after you learned and used various user-interface controls(RadioButton, CheckBox, ComboBox, Label and Button), let's use some more by adding more features to your Coffee Shop.

- 1) Upgrade your program, so that user can see an image of the drink and some information about it, based on their choice



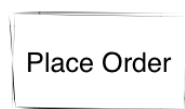
Note: Don't forget that an image and the description must change every time a user changes its drink choice.

- 2) Replace CheckBoxes so that the user can select the add in a ListView and display pictures of the selected items in the image views.



- 3) Add one more feature for the "Place Order" button click event.

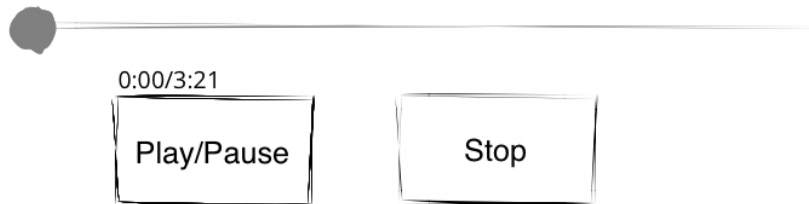
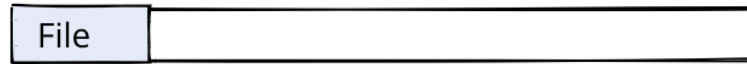
Calculate the total cost of the drink(Price depends only on the Drink and Milk choice)
All Additions are free.



Ex: Amount due: KZT 700

Problem C

Create a simple music player with Play, Pause, and Stop buttons, and a MenuBar that allows you to select a file with a FileChooser.



Ex: