

**Lab Assign Number:** 5      **Class Name :** BagelStopApp

**Imports needed:**

import the package javax.swing.\* for the swing components  
import the package java.awt.\* for the Font class  
import the package java.awt.event.\* for the ActionListener interface  
import the package java.text.\* for the DecimalFormat class

**In the class:**

Declare all user interface components from the interface plan

Declare the following instance variables

String inputFlavorString for the flavor chosen by the customer  
String bagelFlavorArrayString [] for all of the preset bagel flavors like Plain, Egg, Rye, etc.  
String creamCheeseFlavorArrayString [] for all of the preset cream cheese flavors like Plain, Herb,  
Garlic

**main method:**

Create an object of the class BagelStopApp  
Set the X button to close the window of the JFrame

**constructor:**

Call the designClass method that will add the components to the mainPanel  
Call the addListeners method to register objects to listeners  
Set the mainPanel to the content pane of the JFrame object  
Set the size of the JFrame object  
Set the location of the JFrame object  
Set the visibility of the JFrame object

**designClass method:**

Add the components to the mainPanel as the mainPanel is the container for the GUI  
Set the Font and Color of the companyLabel

**addListeners method:**

Register the helpButton, clearButton, addFlavorButton, removeButton, countButton,  
bagelFlavorsComboBox and the creamCheeseFlavorsComboBox with ActionListener

**actionPerformed method:**

Declare an object :  
Object sourceObject to store the object which triggered the event

Retrieve the object which triggered the event from the event action and store in sourceObject

if the sourceObject equals to helpButton then  
    call the help method  
if the sourceObject equals to addFlavorButton then  
    call the findAndAddFlavor method  
if the sourceObject equals to removeButton then  
    call the removeFlavor method  
if the sourceObject equals to countButton then  
    call the count method

#### **count method:**

Declare int countTotalBagelsInteger & countTotalCreamCheeseInteger variable to store and display the count of Bagel and Cream cheese flavors  
Use getItemCount method to find number of items in the combo boxes  
Use JOptionPane to display the int total of Bagel and Cream cheese flavors

#### **count method:**

Declare int countTotalBagelsInteger & countTotalCreamCheeseInteger variable to store and display the count of Bagel and Cream cheese flavors  
Use getItemCount method to find number of items in the combo boxes  
Use JOptionPane to display the int total of Bagel and Cream cheese flavors

#### **help method:**

Use JOptionPane to display detailed instructions to user on adding and removing Bagel and Cream cheese flavors

#### **findAndAddFlavor method:**

Use getText method to retrieve from newFlavorTextField and store as inputFlavorString  
if the newFlavorTextField is not empty  
    if the bagelRadioButton is selected  
        Declare boolean foundFlavorBoolean variable to store if all the components were validated or not  
        Call the findDuplicateBagels method using inputFlavorString  
        if it returns a true then  
            Display inputFlavorString "bagel flavor is already in the list " in  
JOptionPane dialog box  
        otherwise  
            Display inputFlavorString "bagel flavor has been added to the list" in  
JOptionPane dialog box  
    if the creamCheeseRadioButton is selected  
        Declare boolean foundFlavorBoolean variable to store if all the components were  
validated or not  
        Call the findDuplicateCreamCheese method using inputFlavorString  
        if it returns a true then  
            Display inputFlavorString "cream cheese flavor is already in the list " in  
JOptionPane dialog box  
        otherwise  
            Display inputFlavorString "cream cheese flavor has been added to the  
list" in JOptionPane dialog box  
    otherwise

Display "Please type in the flavor of Bagel or Cream cheese" in JOptionPane dialog box  
 Set the focus on the daysRentedTextField  
 set validationBoolean to false  
 otherwise  
 Display "Please enter your name" in JOptionPane dialog box  
 Set the focus on the newFlavorTextField  
 Set newFlavorTextField to "" to make field an empty string  
 Use setSelectedIndex(0) creamCheeseFlavorsComboBox to show first item  
 Use setSelectedIndex(0) bagelFlavorsComboBox to show first item

#### **findDuplicateBagels(String inputString) method:**

Declare boolean itemFoundBoolean variable to check whether flavor already exists or not  
 Declare String listItemString and set to "" to be used to compare each item in combo box to text field  
 input  
 Declare int indexInteger = 0 to be used to loop through each item in the combo box  
 Declare int countTotalBagelsInteger by using getItemCount for the bagelFlavorsComboBox. This value sets the termination of the loop. Comparison is continues while indexInteger is less than countTotalBagelsInteger  
 Use a while loop to compare the text field input. Use String.valueOf method for the bagelFlavorsComboBox which uses getItemAt the current indexInteger  
 Use equalsIgnoreCase to compare strings  
 If matches itemFoundBoolean is set to true  
 Otherwise increase indexInteger to compare next string bagelFlavorsComboBox  
 Return itemFoundBoolean

#### **findDuplicateCreamCheese (String inputString) method:**

Declare boolean itemFoundBoolean variable to check whether flavor already exists or not  
 Declare String listItemString and set to "" to be used to compare each item in combo box to text field  
 input  
 Declare int indexInteger = 0 to be used to loop through each item in the combo box  
 Declare int countTotalCreamCheeseInteger by using getItemCount for the creamCheeseFlavorsComboBox. This value sets the termination of the loop. Comparison is continues while indexInteger is less than countTotalCreamCheeseInteger  
 Use a while loop to compare the text field input. Use String.valueOf method for the creamCheeseFlavorsComboBox which uses getItemAt the current indexInteger  
 Use equalsIgnoreCase to compare strings  
 If matches itemFoundBoolean is set to true  
 Otherwise increase indexInteger to compare next string creamCheeseFlavorsComboBox  
 Return itemFoundBoolean

#### **selectRadioButton method:**

Declare boolean itemFoundBoolean selectedBoolean  
 if bagelRadioButton or creamCheeseRadioButton is selected then  
 set selectedBoolean to true  
 otherwise  
 Display "Please select Bagel or Cream cheese" in JOptionPane dialog box  
 set selectedBoolean to false  
 return selectedBoolean

### validation method:

Declare boolean validationBoolean variable to store if all the components were validated or not

if selectRadioButton method has been called

store inputFlavorString from newFlavorTextField using getText method

if use inputFlavorString.trim().length() > 0 to make sure more than white space has been entered  
validationBoolean set to true

otherwise

Display "Please type in the flavor of Bagel or Cream cheese" in JOptionPane dialog box

Set the focus on the newFlavorTextField

set validationBoolean to false

otherwise

Display "Please select Bagel or Cream cheese" in JOptionPane dialog box

Set the focus on the bagelRadioButton

set validationBoolean to false

return validationBoolean

### removeFlavormethod:

call selectRadioButton method

if bagelRadioButton has been selected

declare String variable itemString from bagelFlavorsComboBox using getSelectedItem method

then converting to string with toString method

declare responseInt. Set responseInt to display "remove the " itemString in JOptionPane dialog box

if responseInt is yes option

use bagelFlavorsCombox.removeItem for the itemString

Display itemString "has been removed" in JOptionPane dialog box

otherwise

Display itemString "has not been removed" in JOptionPane dialog box

SetSelected invisibleRadioButton to true

if creamCheeseRadioButton has been selected

declare String variable itemString from creamCheeseFlavorsComboBox using getSelectedItem method then converting to string with toString method

declare responseInt. Set responseInt to display "remove the " itemString in JOptionPane dialog box

if responseInt is yes option

use creamCheeseFlavorsCombox.removeItem for the itemString

Display itemString "has been removed" in JOptionPane dialog box

otherwise

Display itemString "has not been removed" in JOptionPane dialog box

SetSelected invisibleRadioButton to true

SetSelected invisibleRadioButton to true

Set newFlavorTextField to "" to make field an empty string

Use setSelectedIndex(0) creamCheeseFlavorsComboBox to show first item

Use setSelectedIndex(0) bagelFlavorsComboBox to show first item