CS1073
FR03B
Lab#5
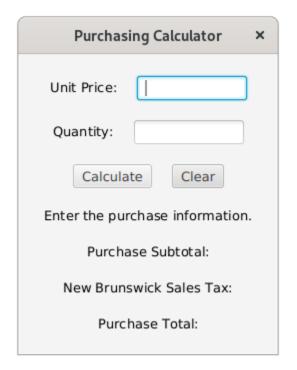

Daniyal Khan
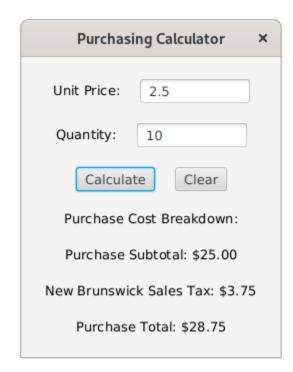**3765942**

Question I:

a. Source Code:

```java
import javafx.application.Application;
import javafx.stage.Stage;
import javafx.scene.Scene;
import javafx.scene.layout.FlowPane;
import javafx.scene.text.Text;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.control.Button;
import javafx.event.ActionEvent;
import javafx.geometry.Pos;
import java.text.NumberFormat;

/**
This class represents a javadoc application for calculating
purchasing cost with tax
@author Daniyal Khan 3765942
*/

public class PurchasingCalculator extends Application {
    private TextField unitPriceInput;
    private TextField quantityInput;
    private Text info;
    private Text subtotal;
    private Text salesTax;
    private Text total;
    private NumberFormat amount;

    public static void main(String[] args) {
        launch(args);
    }

    public void start(Stage Stage) {
        Stage.setTitle("Purchasing Calculator");

        Text unitPrice = new Text("Unit Price:");
        unitPriceInput = new TextField();
    unitPriceInput.setPrefWidth(110);

        Text quantity = new Text("Quantity:");
        quantityInput = new TextField();
    quantityInput.setPrefWidth(110);

        Button calculate = new Button("Calculate");
        Button clear = new Button("Clear");
```

```java
        calculate.setOnAction(this::calculate);
        clear.setOnAction(this::clear);

        info = new Text("Enter the purchase information.");
        subtotal = new Text("Purchase Subtotal:");
        salesTax = new Text("New Brunswick Sales Tax:");
        total = new Text("Purchase Total:");

        FlowPane pane = new FlowPane(unitPrice, unitPriceInput,
quantity, quantityInput, calculate, clear, info,
subtotal, salesTax, total);
        pane.setAlignment(Pos.CENTER);
        pane.setVgap(20);
        pane.setHgap(20);

        Scene scene = new Scene(pane, 260, 300);
          Stage.setScene(scene);
        Stage.show();
    }

    public void calculate(ActionEvent event) {
     amount = NumberFormat.getCurrencyInstance();

         String unitPrice = unitPriceInput.getText();
        String quantity = quantityInput.getText();

        double priceIn = Double.parseDouble(unitPrice);
        double quantityIn = Double.parseDouble(quantity);
          double salesTaxNB = (double)15/100;

          double subTotalPrice = priceIn*quantityIn;
          double newBrunswickTax = salesTaxNB*subTotalPrice;
          double totalPrice = subTotalPrice + newBrunswickTax;

          info.setText("Purchase Cost Breakdown:" );
          subtotal.setText("Purchase Subtotal: " +
amount.format(subTotalPrice));
        salesTax.setText("New Brunswick Sales Tax: " +
amount.format(newBrunswickTax));
        total.setText("Purchase Total: " +
amount.format(totalPrice));
    }

    public void clear(ActionEvent event) {
     unitPriceInput.clear();
     quantityInput.clear();
     info.setText("Enter the purchase information" );
         subtotal.setText("Purchase Subtotal:");
```

```
            salesTax.setText("New Brunswick Sales Tax:");
            total.setText("Purchase Total:");
        }
}
```

b. Sample Output:

Purchasing Calculator   ✕
Unit Price: |
Quantity:
Calculate   Clear
Enter the purchase information.
Purchase Subtotal:
New Brunswick Sales Tax:
Purchase Total:

Purchasing Calculator   ✕
Unit Price: 2.5
Quantity: 10
Calculate   Clear
Purchase Cost Breakdown:
Purchase Subtotal: $25.00
New Brunswick Sales Tax: $3.75
Purchase Total: $28.75

Purchasing Calculator   ✕
Unit Price:
Quantity:
Calculate   Clear
Enter the purchase information
Purchase Subtotal:
New Brunswick Sales Tax:
Purchase Total:

Purchasing Calculator   ✕
Unit Price: 7.98
Quantity: 110
Calculate   Clear
Purchase Cost Breakdown:
Purchase Subtotal: $877.80
New Brunswick Sales Tax: $131.67
Purchase Total: $1,009.47