Appendix 2: Source Code

```java
package Controller;
import Model.*;
import View.*;
import static View.ViewEntries.jTable1;
import static View.ViewFuelTypes.Diesel;
import static View.ViewFuelTypes.E10;
import static View.ViewFuelTypes.Leaded;
import static View.ViewFuelTypes.Other;
import static View.ViewFuelTypes.Total;
import static View.ViewFuelTypes.Unleaded;
import static View.ViewFuelTypes.month1;
//import static View.ViewFuelTypes.type;
import java.io.FileInputStream;
import java.text.SimpleDateFormat;
import java.util.ArrayList;
import java.util.Calendar;
import java.util.Date;
import javax.swing.table.DefaultTableModel;

//imports for serialization & deserialisation
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.ObjectInputStream;
import java.io.ObjectOutputStream;
import java.util.logging.Level;
import java.util.logging.Logger;


public class AtlantisFuel {

    //user arrayList: username, password, index number
    public static ArrayList<Users> users = new ArrayList<>();
    public static ArrayList<Vehicles> vehicles = new ArrayList<>();
    public static ArrayList<FuelConsumption> fuelConsumption = new
ArrayList<>();

    //Signup page
    public static boolean addUser(String username, String password, String
firstname,
            String surname, String email, int phone){
        try {
            deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }
        users.add(new Users(username, password, firstname, surname, email,
phone));
        serialiseUser();
        return true;

    }
```

```java
    //EditProfile page
    public static boolean editUser(String username, String password, String
firstname,
            String surname, String email, int phone, int currentUser){
        try {
            deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }
        users.get(currentUser).setUsername(username);
        users.get(currentUser).setPassword(password);
        users.get(currentUser).setFirstname(firstname);
        users.get(currentUser).setSurname(surname);
        users.get(currentUser).setEmail(email);
        users.get(currentUser).setPhone(phone);
        serialiseUser();

        return true;
    }

    public static int findUser(String username){

        //String username = username;

        try {
            deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }

        boolean find = false;
        int m = 0;
        int userIndex = 0;

        while(m < users.size() && find == false){
            if(username.equals(users.get(m).getUsername())){
                userIndex = m;
                find = true;
            }
            else{
                m=m+1;
            }
        }
        serialiseUser();
        return userIndex;
    }

    //AddEntry page
    public static boolean addFuelEntry(long fuelID, String username, String
fuelType, int fuelAmount, float cost, Date dateEnterred, String vehicleName){
        try {
```

```java
            deserialiseFuel();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }

        fuelConsumption.add(new FuelConsumption(fuelID, username, fuelType,
fuelAmount, cost, dateEntered, vehicleName));
        serialiseFuel();
        return true;
    }

    public static boolean editEntry(long fuelID, String username, String
fuelType, int fuelAmount, float cost, Date dateEnterred, String vehicleName){
        try {
            deserialiseFuel();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }
        int number = 0;
        for(int i = 0; i < AtlantisFuel.fuelConsumption.size(); i++){
            if(AtlantisFuel.fuelConsumption.get(i).getFuelID() == fuelID){
                number = i;
            }
        }

        fuelConsumption.get(number).setFuelType(fuelType);
        fuelConsumption.get(number).setFuelAmount(fuelAmount);
        fuelConsumption.get(number).setCost(cost);
        fuelConsumption.get(number).setDateEnterred(dateEnterred);

        serialiseFuel();
        return true;
    }

    //AddVehicle page
    public static boolean addVehicle(String username, String nameOfVehicle, int
dayBought, int monthBought, int yearBought, boolean fourWheelDrive){
        try {
            deserialiseVehicles();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }
        vehicles.add(new Vehicles(username, nameOfVehicle, dayBought,
monthBought, yearBought, fourWheelDrive));
        serialiseVehicles();
        return true;
    }

    //EditVehicle page
    public static boolean editVehicle(int index, String username, String
nameOfVehicle, int dayBought, int monthBought, int yearBought, boolean
```

```java
fourWheelDrive){
        try {
            deserialiseVehicles();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }
        vehicles.get(index).setUsername(username);
        vehicles.get(index).setNameOfVehicle(nameOfVehicle);
        vehicles.get(index).setDayBought(dayBought);
        vehicles.get(index).setMonthBought(monthBought);
        vehicles.get(index).setYearBought(yearBought);
        vehicles.get(index).setFourWheelDrive(fourWheelDrive);
        serialiseVehicles();
        return true;
    }

    //for the add fuel entry page (day) & add vehicle: - only works for add
entry
    public static boolean displayDays(){
        int currentDay = 1;
        while(currentDay < 32){
            AddEntry.jComboBox3.addItem(Integer.toString(currentDay));
            currentDay = currentDay + 1;
        }
        return true;
    }

    //for the add fuel entry page (month) & add vehicle:
    public static boolean displayMonths(){
        AddEntry.jComboBox2.addItem("Jan");
        AddEntry.jComboBox2.addItem("Feb");
        AddEntry.jComboBox2.addItem("Mar");
        AddEntry.jComboBox2.addItem("Apr");
        AddEntry.jComboBox2.addItem("May");
        AddEntry.jComboBox2.addItem("Jun");
        AddEntry.jComboBox2.addItem("Jul");
        AddEntry.jComboBox2.addItem("Aug");
        AddEntry.jComboBox2.addItem("Sep");
        AddEntry.jComboBox2.addItem("Oct");
        AddEntry.jComboBox2.addItem("Nov");
        AddEntry.jComboBox2.addItem("Dec");
        return true;
    }

    //for the add fuel entry page (year) & add vehicle:
    public static boolean displayYear(){
        int year = Calendar.getInstance().get(Calendar.YEAR);
        for(int y = 0; y < 20; y++){
            AddEntry.jComboBox1.addItem(Integer.toString(year-y));
        }
        return true;
    }
```

```java
    //for the add fuel entry page (type of fuel)
    public static boolean displayFuelTypes(){
        AddEntry.jComboBox4.addItem("E10");
        AddEntry.jComboBox4.addItem("Unleaded");
        AddEntry.jComboBox4.addItem("Leaded");
        AddEntry.jComboBox4.addItem("Diesel");
        AddEntry.jComboBox4.addItem("Other");
        return true;
    }

    //find the index of the vehicle in question
    public static int findVehicle(String nameOfVehicle, String username){
        try {
            deserialiseVehicles();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }
        int n = 0;
        boolean find = false;
        int currentVehicleIndex = 0;
        while(find == false && n < vehicles.size()){
            //username needs to be checked too
            if(vehicles.get(n).getNameOfVehicle().equals(nameOfVehicle) &&
vehicles.get(n).getUsername().equals(username)){
                currentVehicleIndex = n;
                find = true;
            }
            else{
                n = n + 1;
            }
        }
        serialiseVehicles();
        return currentVehicleIndex;
    }

    //FROM THE VIEWENTRIES PAGE:

    public static void addRowToJTable(){

        try {
            deserialiseFuel();
        } catch (IOException ex) {
            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
        }

        /*the following code is adapted from

https://1bestcsharp.blogspot.com/2016/03/java-populate-jtable-from-arraylist.htm
l
        */
        DefaultTableModel model = (DefaultTableModel) jTable1.getModel();
        model.setRowCount(0);
```

```java
        //should the following loop be here or after the instantiation of the
object?

        for(int i = 0; i < AtlantisFuel.fuelConsumption.size(); i++){

if(AtlantisFuel.fuelConsumption.get(i).getUsername().equals(HomePage.username)){
                Object rowData[] = new Object[7];
                rowData[0] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getFuelID()));

                Date var =
AtlantisFuel.fuelConsumption.get(i).getDateEnterred();
                String one = String.valueOf(var);
                //System.out.println(one.substring(9, 10));
                rowData[1] = one.substring(8,10);

//              int var =
AtlantisFuel.fuelConsumption.get(i).getDateEnterred().getDay();
//                System.out.println(var);
//                System.out.println(var-2);
//                rowData[1] = String.valueOf((var)-4);
                //rowData[1] =
String.valueOf(((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getDay()
)-2);
                rowData[2] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getMonth(
)+1);
                rowData[3] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getYear()
+1900);
                rowData[4] = AtlantisFuel.fuelConsumption.get(i).getFuelType();
                rowData[5] =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getFuelAmount());
                rowData[6] =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getCost());

                model.addRow(rowData);
            }

            /*ORIGINAL CODE:
            Object rowData[] = new Object[7];
        for(int i = 0; i < AtlantisFuel.fuelConsumption.size(); i++){

            //it adds all the entries bro...not only this users
            rowData[0] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getFuelID()));
            rowData[1] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getDay()
- 2);
            rowData[2] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getMonth(
) + 1);
            rowData[3] =
```

```
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEntered()).getYear()
+ 1900);
            rowData[4] = AtlantisFuel.fuelConsumption.get(i).getFuelType();
            rowData[5] =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getFuelAmount());
            rowData[6] =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getCost());

            model.addRow(rowData);
            */
        }

        serialiseFuel();

    }
//
//    public static void addRowToJTable(){
//        try {
//            deserialiseFuel();
//        } catch (IOException ex) {
//            Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
//        }
//
//        /*the following code is adapted from
//
https://1bestcsharp.blogspot.com/2016/03/java-populate-jtable-from-arraylist.htm
l
//        */
//        DefaultTableModel model = (DefaultTableModel) jTable1.getModel();
//        model.setRowCount(0);
//
//        //should the following loop be here or after the instantiation of the
object?
//
//        for(int i = 0; i < AtlantisFuel.fuelConsumption.size(); i++){
//
if(AtlantisFuel.fuelConsumption.get(i).getUsername().equals(HomePage.username)){
//            Object rowData[] = new Object[7];
//            rowData[0] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getFuelID()));
//
//            Date var =
AtlantisFuel.fuelConsumption.get(i).getDateEntered();
//            String one = String.valueOf(var);
//            //System.out.println(one.substring(9, 10));
//            rowData[1] = one.substring(8,10);
//
////            int var =
AtlantisFuel.fuelConsumption.get(i).getDateEntered().getDay();
////            System.out.println(var);
////            System.out.println(var-2);
////            rowData[1] = String.valueOf((var)-4);
//            //rowData[1] =
```

```
String.valueOf(((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getDay()
)-2);
//                  rowData[2] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getMonth(
)+1);
//                  rowData[3] =
String.valueOf((AtlantisFuel.fuelConsumption.get(i).getDateEnterred()).getYear()
+1900);
//                  rowData[4] =
AtlantisFuel.fuelConsumption.get(i).getFuelType();
//                  rowData[5] =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getFuelAmount());
//                  rowData[6] =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getCost());
//
//                  model.addRow(rowData);
//              }
//          }
//          serialiseFuel();
//      }

     //for ViewFuelTypes class

//      public static void chartThisMonth(){
//
////          if(jComboBox1.getSelectedItem().equals("this month")){
//              String date = new SimpleDateFormat("dd-MM-yyyy").format(new
Date());
//              System.out.println(date);
//              month1 = date.substring(3,5);
//
//          switch (month1) {
//              case "01":
//                  month1 = "1";
//                  System.out.println("month converted");
//                  break;
//              case "02":
//                  month1 = "2";
//                  System.out.println("month converted");
//                  break;
//              case "03":
//                  month1 = "3";
//                  System.out.println("month converted");
//                  break;
//              case "04":
//                  month1 = "4";
//                  System.out.println("month converted");
//                  break;
//              case "05":
//                  month1 = "5";
//                  System.out.println("month converted");
//                  break;
//              case "06":
//                  month1 = "6";
```

```java
//                    System.out.println("month converted");
//                    break;
//                case "07":
//                    month1 = "7";
//                    System.out.println("month converted");
//                    break;
//                case "08":
//                    month1 = "8";
//                    System.out.println("month converted");
//                    break;
//                case "09":
//                    month1 = "9";
//                    System.out.println("month converted");
//                    break;
//                default:
//                    break;
//            }
//
//            try {
//                AtlantisFuel.deserialiseFuel();
//            } catch (IOException ex) {
//                Logger.getLogger(AtlantisFuel.class.getName()).log(Level.SEVERE,
null, ex);
//            }
//
//
//            int j = 0;
//            int month = Integer.valueOf(month1);
//            while(j < AtlantisFuel.fuelConsumption.size()){
//
if((AtlantisFuel.fuelConsumption.get(j).getUsername().equals(HomePage.username))
//                    &&
(AtlantisFuel.fuelConsumption.get(j).getDateEnterred().getMonth() == month)
//                    &&
(AtlantisFuel.fuelConsumption.get(j).getDateEnterred().getYear() + 1900) ==
Integer.valueOf(date.substring(6))){
//                    System.out.println("loop begun");
//
//                    switch (AtlantisFuel.fuelConsumption.get(j).getFuelType())
{
//                        case "E10":
//                            E10 = E10 + 1;
//                            if(!(type.contains("E10"))){
//                                type.add("E10");
//                                System.out.println("added to type");
//                            }
//
//                            break;
//                        case "Diesel":
//                            Diesel = Diesel + 1;
//                            if(!(type.contains("Diesel"))){
//                                type.add("Diesel");
//                                System.out.println("added to type");
//                            }
```

```java
//                                break;
//                          case "Unleaded":
//                                Unleaded = Unleaded + 1;
//                                if(!(type.contains("Unleaded"))){
//                                    type.add("Unleaded");
//                                    System.out.println("added to type");
//                                }
//                                break;
//
//                          case "Leaded":
//                                Leaded = Leaded + 1;
//                                if(!(type.contains("Leaded"))){
//                                    type.add("Leaded");
//                                    System.out.println("added to type");
//                                }
//                                break;
//                          case "Other":
//                                Other = Other + 1;
//                                if(!(type.contains("Other"))){
//                                    type.add("Other");
//                                    System.out.println("added to type");
//                                }
//                                break;
//                          default:
//                                break;
//                      }
//                  }
//                  j = j + 1;
//              }
//
//              Total = E10 + Diesel + Unleaded + Leaded + Other;
//              System.out.println("totalled");
//
//              serialiseFuel();
//      }

    public static void serialiseUser(){
        try { /*the try-catch is used to avoid the program stalling and crashing
            if something goes wrong. it will stop the application from crashing
            if an error occurs in the run-time of the code within*/
            FileOutputStream fileOut = new FileOutputStream("users.ser");
            /*instantiated the text file in which the data will be stored*/
            ObjectOutputStream out = new ObjectOutputStream(fileOut);
            out.writeObject(users);//the users arraylist is the object to be
serialised
            out.close();
            fileOut.close();
            System.out.println("Serialized data is saved in users.ser");

        } catch (IOException i) {
            i.printStackTrace();
        }
    }
```

```java
    public static void serialiseVehicles(){
        try {
            FileOutputStream fileOut = new FileOutputStream("vehicles.ser");
            //data saved in this file
            ObjectOutputStream out = new ObjectOutputStream(fileOut);
            out.writeObject(vehicles);//the vehicles arraylist is the object to
be serialised
            out.close();
            fileOut.close();
            System.out.println("Serialized data is saved in vehicles.ser");

        } catch (IOException i) {
            i.printStackTrace();
        }
    }

    public static void serialiseFuel(){
        try {
            FileOutputStream fileOut = new FileOutputStream("fuel.ser");
            //data saved in this file
            ObjectOutputStream out = new ObjectOutputStream(fileOut);
            out.writeObject(fuelConsumption);//the fuelConsumption arraylist is
the object to be serialised
            out.close();
            fileOut.close();
            System.out.println("Serialized data is saved in fuel.ser");

        } catch (IOException i) {
            i.printStackTrace();
        }
    }

    public static void deserialiseUser() throws IOException {
        try {/*once again a try catch statement is used to prevent the program
            from crashing should an exception to the code occur and prevent it
            from running correctly.*/
            //searches for the serialised file:
            FileInputStream fileIn = new FileInputStream("users.ser");
            ObjectInputStream in = new ObjectInputStream(fileIn);
            //transfers the data back to its normal form
            users = (ArrayList<Users>) in.readObject();
            in.close();
            fileIn.close();

        } catch (IOException i) {
            i.printStackTrace();
            return;
        } catch (ClassNotFoundException c) {
            System.out.println("User class not found");
            /*if an exception occured it will let the user know that the
            serialised file could not be found*/
            c.printStackTrace();
            return;
        }
```

```java
//          System.out.println("Deserializing User...");
//          for(int i = 0; i < users.size(); i++){//will run uptil userList's size
//              /*the following statements show the file has been deserialised and

//              the data has been converted back to its original state from the
bytestream*/
//              System.out.println("First Name of User: " +
users.get(i).getFirstname());
//              System.out.println("Last Name of User: " +
users.get(i).getSurname());
//          }
    }

    public static void deserialiseVehicles() throws IOException {
        try {
            //looks for the serialised file
            FileInputStream fileIn = new FileInputStream("vehicles.ser");
            ObjectInputStream in = new ObjectInputStream(fileIn);
            vehicles = (ArrayList<Vehicles>) in.readObject();
            in.close();
            fileIn.close();

        } catch (IOException i) {
            i.printStackTrace();
            return;
        } catch (ClassNotFoundException c) {
            System.out.println("Vehicle class not found");
            c.printStackTrace();
            return;
        }
        System.out.println("Deserializing Vehicle...");
        for(int i = 0; i < vehicles.size(); i++){//will run uptil userList's
size
            System.out.println("Name of Vehicle: " +
vehicles.get(i).getNameOfVehicle());
        }
    }

    public static void deserialiseFuel() throws IOException {
        try {
            //looks for the serialised file
            FileInputStream fileIn = new FileInputStream("fuel.ser");
            ObjectInputStream in = new ObjectInputStream(fileIn);
            fuelConsumption = (ArrayList<FuelConsumption>) in.readObject();
            in.close();
            fileIn.close();

        } catch (IOException i) {
            i.printStackTrace();
            return;
        } catch (ClassNotFoundException c) {
            System.out.println("Fuel class not found");
            c.printStackTrace();
            return;
```

```java
        }
        System.out.println("Deserializing Fuel...");
        for(int i = 0; i < fuelConsumption.size(); i++){//will run uptil
userList's size
            System.out.println("Fuel Type: " +
fuelConsumption.get(i).getFuelType());
        }
    }



    public static void main(String[] args) {
        new StartPage().setVisible(true);



    }

}

package Model;
import java.util.ArrayList;

public class Amounts {

    private ArrayList[] Amounts;
    private String year;
    private int amount;

    public Amounts(String year, int amount) {
        this.year = year;
        this.amount = amount;
    }

    public ArrayList[] getAmounts() {
        return Amounts;
    }

    public void setAmounts(ArrayList[] Amounts) {
        this.Amounts = Amounts;
    }

    //accessors and mutators for year values:
    //getter for year value - used when traversing through amounts arraylist
    public String getYear() {
        return year;
    }

    //setter for year value
    public void setYear(String year) {
        this.year = year;
    }

    //accessors and mutators for amounts values
    //getter for amounts value - used when editing the amount value
```

```java
    public int getAmount() {
        return amount;
    }

    public void setAmount(int amount) {
        this.amount = amount;
    }

}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package Model;
import View.*;
import java.util.ArrayList;

/**
 *
 * @author yessi
 */
public class CostsPerYear {

    public CostsPerYear(String year, float cost) {
        this.year = year;
        this.cost = cost;

    }

    private ArrayList[] costsPerYear;
    private String year;
    private float cost;

    public ArrayList[] getCostsPerYear() {
        return costsPerYear;
    }

    public void setCostsPerYear(ArrayList[] costsPerYear) {
        this.costsPerYear = costsPerYear;
    }

    public String getYear() {
        return year;
    }

    public void setYear(String year) {
        this.year = year;
    }

    public float getCost() {
        return cost;
    }
```

```java
    public void setCost(float cost) {
        this.cost = cost;
    }

}

package Model;

import java.io.Serializable;
import java.util.Date;
import java.util.ArrayList;

public class FuelConsumption implements Serializable{

    public FuelConsumption(long fuelID, String username, String fuelType, int
fuelAmount, float cost, Date dateEnterred, String vehicleName) {
        this.fuelID = fuelID;
        this.username = username;
        this.fuelType = fuelType;
        this.fuelAmount = fuelAmount;
        this.cost = cost;
        this.dateEnterred = dateEnterred;
        this.vehicleName = vehicleName;
    }

    private ArrayList[] fuelConsumption;
    private long fuelID;
    private String username;
    private String fuelType;
    private int fuelAmount;
    private float cost;
    private Date dateEnterred;
    private String vehicleName;


    public ArrayList[] getFuelConsumption() {
        return fuelConsumption;
    }

    public void setFuelConsumption(ArrayList[] fuelConsumption) {
        this.fuelConsumption = fuelConsumption;
    }

    public String getFuelType() {
        return fuelType;
    }

    public void setFuelType(String fuelType) {
        this.fuelType = fuelType;
    }

    public int getFuelAmount() {
```

```java
        return fuelAmount;
    }

    public void setFuelAmount(int fuelAmount) {
        this.fuelAmount = fuelAmount;
    }

    public String getUsername() {
        return username;
    }

    public void setUsername(String username) {
        this.username = username;
    }

    public float getCost() {
        return cost;
    }

    public void setCost(float cost) {
        this.cost = cost;
    }

    public Date getDateEnterred() {
        return dateEnterred;
    }

    public void setDateEnterred(Date dateEnterred) {
        this.dateEnterred = dateEnterred;
    }

    public long getFuelID() {
        return fuelID;
    }

    public void setFuelID(long fuelID) {
        this.fuelID = fuelID;
    }

    public String getVehicleName() {
        return vehicleName;
    }

    public void setVehicleName(String vehicleName) {
        this.vehicleName = vehicleName;
    }

}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
```

```java
package Model;
import java.io.Serializable;
import java.util.ArrayList;

/**
 *
 * @author yessi
 */
public class Users implements Serializable{
    /*allows the data in this class to be serialised.
    since the model classes control the storage of data,
    the classes responsible for the serialised data are these
    */

    public Users(ArrayList[] users) {
        this.users = users;
    }

    private ArrayList[] users;
    private String username;
    private String password;
    private String firstname;
    private String surname;
    private String email;
    private int phone;

    public Users(String username, String password, String firstname, String surname,
            String email, int phone){
        this.username = username;
        this.password = password;
        this.firstname = firstname;
        this.surname = surname;
        this.email = email;
        this.phone = phone;
    }

    public Users() {
        throw new UnsupportedOperationException("Not supported yet."); //To
change body of generated methods, choose Tools | Templates.
    }

    public ArrayList[] getUsers() {
        return users;
    }

    public void setUsers(ArrayList[] users) {
        this.users = users;
    }

    public String getUsername() {
        return username;
    }
```

```java
    public void setUsername(String username) {
        this.username = username;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getFirstname() {
        return firstname;
    }

    public void setFirstname(String firstname) {
        this.firstname = firstname;
    }

    public String getSurname() {
        return surname;
    }

    public void setSurname(String surname) {
        this.surname = surname;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public long getPhone() {
        return phone;
    }

    public void setPhone(int phone) {
        this.phone = phone;
    }

}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package Model;
import java.io.Serializable;
import java.util.ArrayList;
```

```java
/**
 *
 * @author yessi
 */
public class Vehicles implements Serializable {

    public Vehicles(String username, String nameOfVehicle, int dayBought, int
monthBought, int yearBought, boolean fourWheelDrive) {
        this.username = username;
        this.nameOfVehicle = nameOfVehicle;
        this.dayBought = dayBought;
        this.monthBought = monthBought;
        this.yearBought = yearBought;
        this.fourWheelDrive = fourWheelDrive;
    }

    private ArrayList[] vehicles;
    private String username;
    private String nameOfVehicle;
    private int dayBought;
    private int monthBought;
    private int yearBought;
    private boolean fourWheelDrive;

    public ArrayList[] getVehicles() {
        return vehicles;
    }

    public void setVehicles(ArrayList[] vehicles) {
        this.vehicles = vehicles;
    }

    public String getNameOfVehicle() {
        return nameOfVehicle;
    }

    public void setNameOfVehicle(String nameOfVehicle) {
        this.nameOfVehicle = nameOfVehicle;
    }

    public int getDayBought() {
        return dayBought;
    }

    public void setDayBought(int dayBought) {
        this.dayBought = dayBought;
    }

    public int getMonthBought() {
        return monthBought;
    }

    public void setMonthBought(int monthBought) {
```

```java
            this.monthBought = monthBought;
        }

        public int getYearBought() {
            return yearBought;
        }

        public void setYearBought(int yearBought) {
            this.yearBought = yearBought;
        }

        public boolean isFourWheelDrive() {
            return fourWheelDrive;
        }

        public void setFourWheelDrive(boolean fourWheelDrive) {
            this.fourWheelDrive = fourWheelDrive;
        }

        public String getUsername() {
            return username;
        }

        public void setUsername(String username) {
            this.username = username;
        }


}

package View;
import Controller.*;
import static View.HomePage.username;
import java.io.IOException;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.logging.Level;
import java.util.logging.Logger;
import java.util.Random;
import java.util.concurrent.ThreadLocalRandom;

public class AddEntry extends javax.swing.JFrame {
    public static int fuelAmount;
    public static float cost;
    public static long fuelID;
    public static int idCounter;

    public AddEntry(String username) {
        initComponents();
        jLabel7.setText("");
        AtlantisFuel.displayDays();
        AtlantisFuel.displayMonths();
        AtlantisFuel.displayYear();
```

```java
        AtlantisFuel.displayFuelTypes();

        try {
            //jComboBox5

            AtlantisFuel.deserialiseVehicles();
        } catch (IOException ex) {
            Logger.getLogger(AddEntry.class.getName()).log(Level.SEVERE, null,
ex);
        }

        jComboBox5.addItem("Other vehicle");
        for(int g=0; g < AtlantisFuel.vehicles.size();g++){
            if(AtlantisFuel.vehicles.get(g).getUsername().equals(username)){

jComboBox5.addItem(AtlantisFuel.vehicles.get(g).getNameOfVehicle());
            }
        }

    }

    public void addEntryButton(){
        //check if amount enterred numbers only - 1
        boolean checkAmount = false;
        boolean checkAmountNumber = false;
        boolean checkCost = false;

        String amount1 = jTextField1.getText();
        //checks fuel amount is enterred correctly and not too long for the
computer to process
        if(amount1.matches("^[0-9]*$") && amount1.length() <= 2147483647){
            fuelAmount = Integer.valueOf(amount1);
        }
        else{
            checkAmount = true;
        }

        //check if cost enterred numbers and dot only - 2
        String cost1 = jTextField2.getText();
        if((cost1.matches("^[0-9]*$") || cost1.contains(".")) && cost1.length()
<= 2147483647){
            cost = Float.valueOf(cost1);
        }
        else{
            checkCost = true;
        }

        int monthEnterred = 0;
        String month = "1";

        if(checkAmount == true && checkCost == true){
            jLabel7.setText("Please correctly enter amount and cost \n"
                    + "Amount can only have numbers\n"
                    + "Cost can only have numbers and .");
```

```java
        }
        else if(checkAmount == true && checkCost == false){
            jLabel7.setText("Please correctly enter the amount \n"
                    + "The value can only have numbers");
        }
        else if(checkCost == true && checkAmount == false){
            jLabel7.setText("Please correclty enter the cost \n"
                    + "The value can only have numbers and .");
        }
        else{
            String day1 = (String)jComboBox3.getSelectedItem();
            if(day1.length() == 1){
                //if the date is a single number, it adds zero at the front
                day1 = "0" + day1;
            }

            String month1 = (String)jComboBox2.getSelectedItem();


            switch (month1) {
                case "Jan":
                    monthEnterred = 1;
                    month = "01";
                    break;
                case "Feb":
                    monthEnterred = 2;
                    month = "02";
                    break;
                case "Mar":
                    monthEnterred = 3;
                    month = "03";
                    break;
                case "Apr":
                    monthEnterred = 4;
                    month = "04";
                    break;
                case "May":
                    monthEnterred = 5;
                    month = "05";
                    break;
                case "Jun":
                    monthEnterred = 6;
                    month = "06";
                    break;
                case "Jul":
                    monthEnterred = 7;
                    month = "07";
                    break;
                case "Aug":
                    monthEnterred = 8;
                    month = "08";
                    break;
                case "Sep":
                    monthEnterred = 9;
```

```java
                month = "09";
                break;
            case "Oct":
                monthEnterred = 10;
                month = "10";
                break;
            case "Nov":
                monthEnterred = 11;
                month = "11";
                break;
            case "Dec":
                monthEnterred = 12;
                month = "12";
                break;
            default:
                break;
        }

        String year1 = (String)jComboBox1.getSelectedItem();

        String fuelType = (String)jComboBox4.getSelectedItem();

        String d1 = day1 + "-" + month + "-" + year1;
        Date dateEnterred = null;
        try {
            dateEnterred = new SimpleDateFormat("dd-MM-yyyy").parse(d1);
            //to find day use getDay() - 2
            //to find year yse getYear() + 1900
            System.out.println(dateEnterred);

        } catch (ParseException ex) {
            Logger.getLogger(AddEntry.class.getName()).log(Level.SEVERE,
null, ex);
        }

        //fuelID = fuelID + 1;
        //finding random number and checking if random number is already
used as fuelID in arraylist
        long rand = Long.valueOf(ThreadLocalRandom.current().nextInt());
        boolean duplicate = false;
        for(int r = 0; r < AtlantisFuel.fuelConsumption.size(); r++){
            if(AtlantisFuel.fuelConsumption.get(r).getFuelID() == rand){
                duplicate = true;
                rand = Long.valueOf(ThreadLocalRandom.current().nextInt());
                continue;
            }
        }

        if(duplicate == false){
            fuelID = rand;
            String vehicleName = (String) jComboBox5.getSelectedItem();
            AtlantisFuel.addFuelEntry(fuelID, username, fuelType,
fuelAmount, cost, dateEnterred, vehicleName);
            new HomePage(username).setVisible(true);
```

```java
                this.setVisible(false);
            }
        }
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jTextField1 = new javax.swing.JTextField();
        jTextField2 = new javax.swing.JTextField();
        jComboBox1 = new javax.swing.JComboBox<>();
        jComboBox2 = new javax.swing.JComboBox<>();
        jComboBox3 = new javax.swing.JComboBox<>();
        jComboBox4 = new javax.swing.JComboBox<>();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();
        jLabel7 = new javax.swing.JLabel();
        jComboBox5 = new javax.swing.JComboBox<>();
        jLabel8 = new javax.swing.JLabel();
        jPanel2 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));
        jPanel1.setPreferredSize(new java.awt.Dimension(1280, 862));

        jTextField1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField1.setForeground(new java.awt.Color(242, 128, 9));
        jTextField1.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(12, 12, 20)));
        jTextField1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField1ActionPerformed(evt);
            }
        });

        jTextField2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
```

```java
        // NOI18N
        jTextField2.setForeground(new java.awt.Color(242, 128, 9));
        jTextField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(12, 12, 20)));
        jTextField2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField2ActionPerformed(evt);
            }
        });

        jComboBox1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox1.setForeground(new java.awt.Color(242, 128, 9));

        jComboBox2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox2.setForeground(new java.awt.Color(242, 128, 9));
        jComboBox2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox2ActionPerformed(evt);
            }
        });

        jComboBox3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox3.setForeground(new java.awt.Color(242, 128, 9));
        jComboBox3.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox3ActionPerformed(evt);
            }
        });

        jComboBox4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox4.setForeground(new java.awt.Color(242, 128, 9));

        jLabel1.setBackground(new java.awt.Color(239, 240, 245));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel1.setForeground(new java.awt.Color(242, 128, 9));
        jLabel1.setText("Month");

        jLabel2.setBackground(new java.awt.Color(239, 240, 245));
        jLabel2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel2.setForeground(new java.awt.Color(242, 128, 9));
        jLabel2.setText("Type");

        jLabel3.setBackground(new java.awt.Color(239, 240, 245));
        jLabel3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel3.setForeground(new java.awt.Color(242, 128, 9));
        jLabel3.setText("Year");
```

```java
        jLabel4.setBackground(new java.awt.Color(239, 240, 245));
        jLabel4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel4.setForeground(new java.awt.Color(242, 128, 9));
        jLabel4.setText("Cost");

        jLabel5.setBackground(new java.awt.Color(239, 240, 245));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setForeground(new java.awt.Color(242, 128, 9));
        jLabel5.setText("Day");

        jLabel6.setBackground(new java.awt.Color(239, 240, 245));
        jLabel6.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel6.setForeground(new java.awt.Color(242, 128, 9));
        jLabel6.setText("Amount ");

        jButton1.setBackground(new java.awt.Color(255, 255, 255));
        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jButton1.setForeground(new java.awt.Color(242, 128, 9));
        jButton1.setText("Add");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jLabel7.setText(".");

        jComboBox5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox5.setForeground(new java.awt.Color(242, 128, 9));
        jComboBox5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox5ActionPerformed(evt);
            }
        });

        jLabel8.setBackground(new java.awt.Color(239, 240, 245));
        jLabel8.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel8.setForeground(new java.awt.Color(242, 128, 9));
        jLabel8.setText("Vehicle");

        jPanel2.setBackground(new java.awt.Color(8, 54, 193));
        jPanel2.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton4.setBackground(new java.awt.Color(239, 188, 79));
        jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton4.setText("Add A Fuel Entry");
        jButton4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```java
                jButton4ActionPerformed(evt);
            }
        });

        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });

        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
```

```java
                .addGap(43, 43, 43)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(136, 136, 136)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jLabel7,
javax.swing.GroupLayout.PREFERRED_SIZE, 633,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)
                            .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel6,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel2,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel3,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel5,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel8,
```

```
                      javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE))
                              .addGap(230, 230, 230)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                        .addComponent(jComboBox3,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jComboBox2,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jComboBox1,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jComboBox4,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jTextField1,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jTextField2,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                    .addComponent(jComboBox5,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                          .addComponent(jButton1,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                      .addContainerGap(182, Short.MAX_VALUE))
              );
              jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                  .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                          .addGap(146, 146, 146)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING)
                              .addComponent(jComboBox5,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                              .addComponent(jLabel8))
```

```
                    .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox3,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox4,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
```

```java
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(26, 26, 26)
                .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE,
50, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(68, 68, 68)
                .addComponent(jLabel7)
                .addGap(41, 41, 41))
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, 796,
Short.MAX_VALUE)
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
1300, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, 796,
javax.swing.GroupLayout.PREFERRED_SIZE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jComboBox3ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        //amount
    }

    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        //cost
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        addEntryButton(); //when addd is pressed
    }
```

```java
    private void jComboBox2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jComboBox5ActionPerformed(java.awt.event.ActionEvent evt) {

        // shows user's vehicles.


    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
```

```java
        java.util.logging.Logger.getLogger(AddEntry.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

        java.util.logging.Logger.getLogger(AddEntry.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

        java.util.logging.Logger.getLogger(AddEntry.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

        java.util.logging.Logger.getLogger(AddEntry.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                //new AddEntry(int currentUser).setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    public static javax.swing.JComboBox<String> jComboBox1;
    public static javax.swing.JComboBox<String> jComboBox2;
    public static javax.swing.JComboBox<String> jComboBox3;
    public static javax.swing.JComboBox<String> jComboBox4;
    public static javax.swing.JComboBox<String> jComboBox5;
    public static javax.swing.JLabel jLabel1;
    public static javax.swing.JLabel jLabel2;
    public static javax.swing.JLabel jLabel3;
    public static javax.swing.JLabel jLabel4;
    public static javax.swing.JLabel jLabel5;
    public static javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    public static javax.swing.JLabel jLabel8;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JTextField jTextField1;
    private javax.swing.JTextField jTextField2;
    // End of variables declaration
}

package View;
import Controller.*;
import static View.HomePage.username;
```

```java
import java.io.IOException;
import java.util.Calendar;
import java.util.logging.Level;
import java.util.logging.Logger;


public class AddVehicle extends javax.swing.JFrame {

    public AddVehicle(String username) {
        initComponents();
//        AtlantisFuel.displayDays();
//        AtlantisFuel.displayMonths();
//        AtlantisFuel.displayYear();

        int currentDay = 1;
        while(currentDay < 32){
            AddVehicle.jComboBox3.addItem(Integer.toString(currentDay));
            currentDay = currentDay + 1;
        }

    //for the add fuel entry page (month) & add vehicle:

        AddVehicle.jComboBox2.addItem("Jan");
        AddVehicle.jComboBox2.addItem("Feb");
        AddVehicle.jComboBox2.addItem("Mar");
        AddVehicle.jComboBox2.addItem("Apr");
        AddVehicle.jComboBox2.addItem("May");
        AddVehicle.jComboBox2.addItem("Jun");
        AddVehicle.jComboBox2.addItem("Jul");
        AddVehicle.jComboBox2.addItem("Aug");
        AddVehicle.jComboBox2.addItem("Sep");
        AddVehicle.jComboBox2.addItem("Oct");
        AddVehicle.jComboBox2.addItem("Nov");
        AddVehicle.jComboBox2.addItem("Dec");

    //for the add fuel entry page (year) & add vehicle:

        int year = Calendar.getInstance().get(Calendar.YEAR);
        for(int y = 0; y < 20; y++){
            AddVehicle.jComboBox1.addItem(Integer.toString(year-y));
        }

    }

    public void addVehicleButton(){
        String day1 = (String)jComboBox3.getSelectedItem();
        int dayBought = Integer.valueOf(day1);

        int monthBought = 0;
        String month1 = (String)jComboBox2.getSelectedItem();

            switch (month1) {
                case "Jan":
                    monthBought = 1;
```

```java
                        break;
                    case "Feb":
                        monthBought = 2;
                        break;
                    case "Mar":
                        monthBought = 3;
                        break;
                    case "Apr":
                        monthBought = 4;
                        break;
                    case "May":
                        monthBought = 5;
                        break;
                    case "Jun":
                        monthBought = 6;
                        break;
                    case "Jul":
                        monthBought = 7;
                        break;
                    case "Aug":
                        monthBought = 8;
                        break;
                    case "Sep":
                        monthBought = 9;
                        break;
                    case "Oct":
                        monthBought = 10;
                        break;
                    case "Nov":
                        monthBought = 11;
                        break;
                    case "Dec":
                        monthBought = 12;
                        break;
                    default:
                        break;
                }

        String year1 = (String)jComboBox1.getSelectedItem();
        int yearBought = Integer.valueOf(year1);

        boolean fourWheelDrive = false;
        if(jCheckBox1.isSelected()){
            fourWheelDrive = true;
        }

        String nameOfVehicle = jTextField2.getText();

        try {
            AtlantisFuel.deserialiseVehicles();
        } catch (IOException ex) {
            Logger.getLogger(AddVehicle.class.getName()).log(Level.SEVERE, null,
    ex);
        }
```

```java
        //loop to check if name of vehicle is duplicated by this user:
        boolean duplicate = false;
        for(int k = 0; k < AtlantisFuel.vehicles.size(); k++){

if(AtlantisFuel.vehicles.get(k).getUsername().equals(HomePage.username) &&
AtlantisFuel.vehicles.get(k).getNameOfVehicle().equals(nameOfVehicle)){
                //if the username is the current user's and the name of the
vehicle is the same as the enterred one:
                duplicate = true;
            }
        }

        AtlantisFuel.serialiseVehicles();


        if(nameOfVehicle.equals("")){
            jLabel7.setText("Please enter a name");
        }
        else if(duplicate == true){
            jLabel7.setText("You cannot have two vehicles with the same name.");
        }
        else{
            AtlantisFuel.addVehicle(username, nameOfVehicle, dayBought,
monthBought, yearBought, fourWheelDrive);
            new HomePage(username).setVisible(true);
            this.setVisible(false);
        }
    }

    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel5 = new javax.swing.JLabel();
        jTextField2 = new javax.swing.JTextField();
        jButton1 = new javax.swing.JButton();
        jComboBox1 = new javax.swing.JComboBox<>();
        jLabel7 = new javax.swing.JLabel();
        jComboBox2 = new javax.swing.JComboBox<>();
        jComboBox3 = new javax.swing.JComboBox<>();
        jLabel1 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jCheckBox1 = new javax.swing.JCheckBox();
        jLabel8 = new javax.swing.JLabel();
        jPanel2 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```

```java
        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jLabel5.setBackground(new java.awt.Color(239, 240, 245));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setText("Day Bought");

        jTextField2.setBackground(new java.awt.Color(239, 240, 245));
        jTextField2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(12, 12, 20)));
        jTextField2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField2ActionPerformed(evt);
            }
        });

        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jButton1.setText("Add");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jComboBox1.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox1.setForeground(new java.awt.Color(12, 12, 20));
        jComboBox1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox1ActionPerformed(evt);
            }
        });

        jLabel7.setText(".");

        jComboBox2.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox2.setForeground(new java.awt.Color(12, 12, 20));
        jComboBox2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox2ActionPerformed(evt);
            }
        });

        jComboBox3.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox3.setForeground(new java.awt.Color(12, 12, 20));
```

```java
        jComboBox3.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox3ActionPerformed(evt);
            }
        });

        jLabel1.setBackground(new java.awt.Color(239, 240, 245));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel1.setText("Month Bought");

        jLabel3.setBackground(new java.awt.Color(239, 240, 245));
        jLabel3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel3.setText("Year Bought");

        jLabel4.setBackground(new java.awt.Color(239, 240, 245));
        jLabel4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel4.setText("Name");

        jCheckBox1.setBackground(new java.awt.Color(239, 240, 245));
        jCheckBox1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jCheckBox1.setText("       Is this vehicle a four wheel drive?");
        jCheckBox1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jCheckBox1ActionPerformed(evt);
            }
        });

        jLabel8.setText(".");

        jPanel2.setBackground(new java.awt.Color(8, 54, 193));
        jPanel2.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton4.setBackground(new java.awt.Color(239, 188, 79));
        jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton4.setText("Add A Fuel Entry");
        jButton4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton4ActionPerformed(evt);
            }
        });

        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });
```

```java
        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addGap(43, 43, 43)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );
```

```java
        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(135, 135, 135)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                        .addComponent(jLabel7,
javax.swing.GroupLayout.PREFERRED_SIZE, 633,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)
                                .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(jLabel3,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(jLabel5,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addGap(132, 132, 132)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                    .addComponent(jComboBox3,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jComboBox2,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jComboBox1,
javax.swing.GroupLayout.Alignment.TRAILING,
```

```
                javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                        .addComponent(jCheckBox1,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 634,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(1, 1, 1)))
                .addContainerGap(260, Short.MAX_VALUE))

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(323, 323, 323)
                    .addComponent(jLabel8,
javax.swing.GroupLayout.PREFERRED_SIZE, 633,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addContainerGap(324, Short.MAX_VALUE)))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addGap(330, 330, 330)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox3,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
```

```java
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(28, 28, 28)
                .addComponent(jCheckBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(46, 46, 46)
                .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE,
50, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jLabel7)
                .addGap(36, 36, 36))
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(392, 392, 392)
                    .addComponent(jLabel8)
                    .addContainerGap(392, Short.MAX_VALUE)))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>
```

```java
    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        addVehicleButton();
    }

    private void jComboBox3ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        //name of vehicle
    }

    private void jCheckBox1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jComboBox1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jComboBox2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
```

```java
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(AddVehicle.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(AddVehicle.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(AddVehicle.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(AddVehicle.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new AddVehicle(username).setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    private javax.swing.JCheckBox jCheckBox1;
    public static javax.swing.JComboBox<String> jComboBox1;
    public static javax.swing.JComboBox<String> jComboBox2;
    public static javax.swing.JComboBox<String> jComboBox3;
    public static javax.swing.JLabel jLabel1;
```

```java
    public static javax.swing.JLabel jLabel3;
    public static javax.swing.JLabel jLabel4;
    public static javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JLabel jLabel8;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JTextField jTextField2;
    // End of variables declaration
}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package View;
import Controller.AtlantisFuel;
import static View.HomePage.username;
import java.io.IOException;
import java.util.logging.Level;
import java.util.logging.Logger;
import static View.HomePage.username;
import static View.ViewEntries.fuelID;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Calendar;
import java.util.Date;

/**
 *
 * @author yessi
 */
public class EditEntry extends javax.swing.JFrame {
    public static int fuelAmount;
    public static float cost;
    public static int monthEnterred;
    public static String month;


    public EditEntry(long fuelID) {
        initComponents();

        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(EditEntry.class.getName()).log(Level.SEVERE, null,
ex);
        }

        int currentDay = 1;
        while(currentDay < 32){
            jComboBox3.addItem(Integer.toString(currentDay));
            currentDay = currentDay + 1;
```

```
        }

        jComboBox2.addItem("Jan");
        jComboBox2.addItem("Feb");
        jComboBox2.addItem("Mar");
        jComboBox2.addItem("Apr");
        jComboBox2.addItem("May");
        jComboBox2.addItem("Jun");
        jComboBox2.addItem("Jul");
        jComboBox2.addItem("Aug");
        jComboBox2.addItem("Sep");
        jComboBox2.addItem("Oct");
        jComboBox2.addItem("Nov");
        jComboBox2.addItem("Dec");

        int year = Calendar.getInstance().get(Calendar.YEAR);
        jComboBox1.addItem(Integer.toString(year-1));
        jComboBox1.addItem(Integer.toString(year));

        jComboBox4.addItem("E10");
        jComboBox4.addItem("Unleaded");
        jComboBox4.addItem("Leaded");
        jComboBox4.addItem("Diesel");
        jComboBox4.addItem("Other");

        jComboBox5.addItem("Other vehicle");
        for(int g=0; g < AtlantisFuel.vehicles.size();g++){
            if(AtlantisFuel.vehicles.get(g).getUsername().equals(username)){

jComboBox5.addItem(AtlantisFuel.vehicles.get(g).getNameOfVehicle());
            }
        }


        for(int i = 0; i < AtlantisFuel.fuelConsumption.size(); i++){
            if(AtlantisFuel.fuelConsumption.get(i).getFuelID() == fuelID){

jComboBox3.setSelectedItem(AtlantisFuel.fuelConsumption.get(i).getDateEnterred()
.getDay() - 2);

            String sub =
String.valueOf(AtlantisFuel.fuelConsumption.get(i).getDateEnterred());
            jComboBox2.setSelectedItem(sub.substring(4,7));

jComboBox1.setSelectedItem(AtlantisFuel.fuelConsumption.get(i).getDateEnterred()
.getYear() + 1900);

jComboBox4.setSelectedItem(AtlantisFuel.fuelConsumption.get(i).getFuelType());

jComboBox5.setSelectedItem(AtlantisFuel.fuelConsumption.get(i).getVehicleName())
;

jTextField1.setText(String.valueOf(AtlantisFuel.fuelConsumption.get(i).getFuelAm
ount()));
```

```java
jTextField2.setText(String.valueOf(AtlantisFuel.fuelConsumption.get(i).getCost()
));

        }
    }
}

    public void editEntryButton(){
    //check if amount enterred numbers only - 1
    boolean checkAmount = false;
    boolean checkCost = false;

    String amount1 = jTextField1.getText();
    /*verifies that amount is acceptable as integer*/
    if(amount1.matches("^[0-9]*$")){
        fuelAmount = Integer.valueOf(amount1);
    }
    else{
        checkAmount = true;
    }

    //check if cost enterred numbers and dot only - 2
    String cost1 = jTextField2.getText();
    if(cost1.matches("^[0-9]*$") || cost1.contains(".")){
        cost = Float.valueOf(cost1);
    }
    else{
        checkCost = true;
    }

    int monthEnterred = 0;
    String month = "1";

    if(checkAmount == true && checkCost == true){
        jLabel7.setText("Please correctly enter amount and cost\n"
            + "Amount can only have numbers\n"
            + "Cost can only have numbers and .");
    }
    else if(checkAmount == true && checkCost == false){
        jLabel7.setText("Please correctly enter the amount\n"
            + "The value can only have numbers");
    }
    else if(checkCost == true && checkAmount == false){
        jLabel7.setText("Please correclty enter the cost\n"
            + "The value can only have numbers and .");
    }
    else{
        String day1 = (String)jComboBox3.getSelectedItem();
        if(day1.length() == 1){
            //if the date is a single number, it adds zero at the front
            day1 = "0" + day1;
        }
```

```java
            String month1 = (String)jComboBox2.getSelectedItem();
            /*converts month enterred to integer to save to fuel object as date
variable*/
            switch (month1) {
                case "Jan":
                monthEnterred = 1;
                month = "01";
                break;
                case "Feb":
                monthEnterred = 2;
                month = "02";
                break;
                case "Mar":
                monthEnterred = 3;
                month = "03";
                break;
                case "Apr":
                monthEnterred = 4;
                month = "04";
                break;
                case "May":
                monthEnterred = 5;
                month = "05";
                break;
                case "Jun":
                monthEnterred = 6;
                month = "06";
                break;
                case "Jul":
                monthEnterred = 7;
                month = "07";
                break;
                case "Aug":
                monthEnterred = 8;
                month = "08";
                break;
                case "Sep":
                monthEnterred = 9;
                month = "09";
                break;
                case "Oct":
                monthEnterred = 10;
                month = "10";
                break;
                case "Nov":
                monthEnterred = 11;
                month = "11";
                break;
                case "Dec":
                monthEnterred = 12;
                month = "12";
                break;
                default:
                break;
```

```java
        }

        String year1 = (String)jComboBox1.getSelectedItem();

        String fuelType = (String)jComboBox4.getSelectedItem();

        String d1 = day1 + "-" + month + "-" + year1;
        Date dateEnterred = null;
        try {
            dateEnterred = new SimpleDateFormat("dd-MM-yyyy").parse(d1);
            //to find day use getDay() - 2
            //to find year yse getYear() + 1900
            System.out.println(dateEnterred);
        } catch (ParseException ex) {
            Logger.getLogger(AddEntry.class.getName()).log(Level.SEVERE,
null, ex);
        }

        String vehicleName = (String)jComboBox5.getSelectedItem();

        AtlantisFuel.editEntry(fuelID, username, fuelType, fuelAmount, cost,
dateEnterred, vehicleName);

    }

    AtlantisFuel.serialiseFuel();
    AtlantisFuel.serialiseVehicles();

}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jPanel11 = new javax.swing.JPanel();
    jButton24 = new javax.swing.JButton();
    jButton25 = new javax.swing.JButton();
    jButton26 = new javax.swing.JButton();
    jPanel2 = new javax.swing.JPanel();
    jLabel3 = new javax.swing.JLabel();
    jComboBox4 = new javax.swing.JComboBox<>();
    jLabel4 = new javax.swing.JLabel();
    jButton6 = new javax.swing.JButton();
    jLabel5 = new javax.swing.JLabel();
    jLabel8 = new javax.swing.JLabel();
    jTextField1 = new javax.swing.JTextField();
    jComboBox5 = new javax.swing.JComboBox<>();
```

```java
        jLabel6 = new javax.swing.JLabel();
        jTextField2 = new javax.swing.JTextField();
        jButton1 = new javax.swing.JButton();
        jComboBox1 = new javax.swing.JComboBox<>();
        jLabel7 = new javax.swing.JLabel();
        jLabel1 = new javax.swing.JLabel();
        jComboBox2 = new javax.swing.JComboBox<>();
        jLabel2 = new javax.swing.JLabel();
        jComboBox3 = new javax.swing.JComboBox<>();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jPanel11.setBackground(new java.awt.Color(8, 54, 193));
        jPanel11.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton24.setBackground(new java.awt.Color(239, 188, 79));
        jButton24.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton24.setText("Add A Fuel Entry");
        jButton24.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton24ActionPerformed(evt);
            }
        });

        jButton25.setBackground(new java.awt.Color(239, 188, 79));
        jButton25.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton25.setText("Add Your Vehicles");
        jButton25.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton25ActionPerformed(evt);
            }
        });

        jButton26.setBackground(new java.awt.Color(8, 54, 193));
        jButton26.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton26.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton26ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel11Layout = new
javax.swing.GroupLayout(jPanel11);
        jPanel11.setLayout(jPanel11Layout);
        jPanel11Layout.setHorizontalGroup(

jPanel11Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel11Layout.createSequentialGroup()
                .addGap(35, 35, 35)
```

```java
                .addGroup(jPanel11Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.L
EADING, false)
                        .addComponent(jButton24,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                        .addComponent(jButton25,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel11Layout.createSequentialGroup()
                    .addContainerGap(27, Short.MAX_VALUE)
                    .addComponent(jButton26, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(25, 25, 25))
        );
        jPanel11Layout.setVerticalGroup(

jPanel11Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel11Layout.createSequentialGroup()
                    .addGap(43, 43, 43)
                    .addComponent(jButton26, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton25, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(48, 48, 48)
                    .addComponent(jButton24, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(139, 139, 139))
        );

        jPanel2.setBackground(new java.awt.Color(255, 255, 255));

        jLabel3.setBackground(new java.awt.Color(239, 240, 245));
        jLabel3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel3.setText("Year");

        jComboBox4.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox4.setForeground(new java.awt.Color(12, 12, 20));

        jLabel4.setBackground(new java.awt.Color(239, 240, 245));
        jLabel4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel4.setText("Cost");

        jButton6.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
```

```java
        jButton6.setText("Delete Entry");
        jButton6.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton6ActionPerformed(evt);
            }
        });

        jLabel5.setBackground(new java.awt.Color(239, 240, 245));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setText("Day");

        jLabel8.setBackground(new java.awt.Color(239, 240, 245));
        jLabel8.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel8.setText("Vehicle");

        jTextField1.setBackground(new java.awt.Color(239, 240, 245));
        jTextField1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField1.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(12, 12, 20)));
        jTextField1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField1ActionPerformed(evt);
            }
        });

        jComboBox5.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox5.setForeground(new java.awt.Color(12, 12, 20));
        jComboBox5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox5ActionPerformed(evt);
            }
        });

        jLabel6.setBackground(new java.awt.Color(239, 240, 245));
        jLabel6.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel6.setText("Amount ");

        jTextField2.setBackground(new java.awt.Color(239, 240, 245));
        jTextField2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(12, 12, 20)));
        jTextField2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField2ActionPerformed(evt);
            }
        });
```

```java
        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jButton1.setText("Edit");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jComboBox1.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox1.setForeground(new java.awt.Color(12, 12, 20));

        jLabel7.setText(".");

        jLabel1.setBackground(new java.awt.Color(239, 240, 245));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel1.setText("Month");

        jComboBox2.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox2.setForeground(new java.awt.Color(12, 12, 20));
        jComboBox2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox2ActionPerformed(evt);
            }
        });

        jLabel2.setBackground(new java.awt.Color(239, 240, 245));
        jLabel2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel2.setText("Type");

        jComboBox3.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox3.setForeground(new java.awt.Color(12, 12, 20));
        jComboBox3.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox3ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
```

```
                    .addGap(176, 176, 176)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel2Layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 7,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel8,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(jComboBox5,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(jPanel2Layout.createSequentialGroup()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)
                            .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel6,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel2,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel3,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel5,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                            .addGroup(jPanel2Layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                    .addComponent(jComboBox3,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jComboBox2,
```

```java
                            javax.swing.GroupLayout.Alignment.TRAILING,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 331,
                            javax.swing.GroupLayout.PREFERRED_SIZE)
                                                .addComponent(jComboBox1,
                            javax.swing.GroupLayout.Alignment.TRAILING,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 331,
                            javax.swing.GroupLayout.PREFERRED_SIZE)
                                                .addComponent(jComboBox4,
                            javax.swing.GroupLayout.Alignment.TRAILING,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 331,
                            javax.swing.GroupLayout.PREFERRED_SIZE)
                                                .addComponent(jTextField1,
                            javax.swing.GroupLayout.Alignment.TRAILING,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 331,
                            javax.swing.GroupLayout.PREFERRED_SIZE)))
                                    .addGroup(jPanel2Layout.createSequentialGroup()
                                        .addGap(132, 132, 132)
                                        .addComponent(jTextField2,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 331,
                            javax.swing.GroupLayout.PREFERRED_SIZE))))
                            .addGroup(jPanel2Layout.createSequentialGroup()
                                .addGap(8, 8, 8)
                                .addComponent(jLabel7,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 633,
                            javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addGap(0, 0, Short.MAX_VALUE))
                            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
                jPanel2Layout.createSequentialGroup()
                                .addGap(0, 0, Short.MAX_VALUE)
                                .addComponent(jButton6,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 292,
                            javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addGap(18, 18, 18)
                                .addComponent(jButton1,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 331,
                            javax.swing.GroupLayout.PREFERRED_SIZE)))
                        .addGap(198, 198, 198))
                );
                jPanel2Layout.setVerticalGroup(

        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addGap(157, 157, 157)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
        AILING)
                            .addComponent(jComboBox5,
                javax.swing.GroupLayout.PREFERRED_SIZE, 50,
                javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel8))
                        .addGap(18, 18, 18)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
        SELINE)
```

```
                        .addComponent(jComboBox3,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jComboBox4,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGap(38, 38, 38)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
```

```
SELINE)
                    .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jButton6,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(22, 22, 22)
                .addComponent(jLabel7)
                .addGap(86, 86, 86))
        );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel11, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel11, javax.swing.GroupLayout.DEFAULT_SIZE, 818,
Short.MAX_VALUE)
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>
```

```java
    private void jButton24ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton25ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton26ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {

        // delete button
        try {
            AtlantisFuel.deserialiseFuel();
        } catch (IOException ex) {
            Logger.getLogger(EditEntry.class.getName()).log(Level.SEVERE, null,
ex);
        }

        for(int count = 0; count < AtlantisFuel.fuelConsumption.size();
count++){
            if(AtlantisFuel.fuelConsumption.get(count).getFuelID() == fuelID){
                AtlantisFuel.fuelConsumption.remove(count);
                break;
            }
        }

        AtlantisFuel.serialiseFuel();
        this.setVisible(false);
        new ViewEntries().setVisible(true);
    }

    private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        //amount
    }

    private void jComboBox5ActionPerformed(java.awt.event.ActionEvent evt) {

        // shows user's vehicles.
    }
```

```java
    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        //cost
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        editEntryButton();
        this.setVisible(false);
        new ViewEntries().setVisible(true);
    }

    private void jComboBox2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jComboBox3ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(EditEntry.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(EditEntry.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
```

```java
java.util.logging.Logger.getLogger(EditEntry.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(EditEntry.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new EditEntry(fuelID).setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton24;
    private javax.swing.JButton jButton25;
    private javax.swing.JButton jButton26;
    private javax.swing.JButton jButton6;
    public static javax.swing.JComboBox<String> jComboBox1;
    public static javax.swing.JComboBox<String> jComboBox2;
    public static javax.swing.JComboBox<String> jComboBox3;
    public static javax.swing.JComboBox<String> jComboBox4;
    public static javax.swing.JComboBox<String> jComboBox5;
    public static javax.swing.JLabel jLabel1;
    public static javax.swing.JLabel jLabel2;
    public static javax.swing.JLabel jLabel3;
    public static javax.swing.JLabel jLabel4;
    public static javax.swing.JLabel jLabel5;
    public static javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    public static javax.swing.JLabel jLabel8;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel11;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JTextField jTextField1;
    private javax.swing.JTextField jTextField2;
    // End of variables declaration
}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package View;
import Controller.*;

import static View.HomePage.username;
```

```java
import java.io.IOException;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author yessi
 */
public class EditProfile extends javax.swing.JFrame {

    //original name of user
    public static String previousName = HomePage.username;

    public EditProfile(String username) {
        initComponents();

        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(EditProfile.class.getName()).log(Level.SEVERE,
null, ex);
        }

        int currentUser = AtlantisFuel.findUser(previousName);

        jTextField2.setText(AtlantisFuel.users.get(currentUser).getUsername());

jPasswordField2.setText(AtlantisFuel.users.get(currentUser).getPassword());
        jTextField8.setText(AtlantisFuel.users.get(currentUser).getFirstname());
        jTextField7.setText(AtlantisFuel.users.get(currentUser).getSurname());
        jTextField10.setText(AtlantisFuel.users.get(currentUser).getEmail());

jTextField9.setText(String.valueOf(AtlantisFuel.users.get(currentUser).getPhone(
)));
    }

    public void editProfileButton(){
        String user = jTextField2.getText();
        int currentUser = AtlantisFuel.findUser(previousName);
        //finds index of current user of original username

        int k = 0;
        boolean check = false;
        while(k < AtlantisFuel.users.size() && check == false){
            if(AtlantisFuel.users.get(k).getUsername().equals(user) && k !=
currentUser){
                /*checks that username is not present in array
                AND index of identical username is not current user then there
is an actual duplicate
                *//*need to check that matching username is not previous
username
                of existing same user - therefore, loop checks that the
                index (k) of the matching username is not the index of the
previous
```

```java
                    details of the same user*/
                    check = true;
                }
                else{
                    k = k + 1;
                }
            }

        String password = jPasswordField2.getText();
        String firstname = jTextField8.getText();
        String surname = jTextField7.getText();
        String email = jTextField10.getText();
        String phone1 = jTextField9.getText();
        int phone = 0;

        boolean phonevalidation = false;
        if(phone1.matches("^[0-9]*$")){
            //if the string contains only numbers - the entry is valid
            //boolean phonevalidation remains true
            phone = Integer.valueOf(phone1);
        }
        else{
            phonevalidation = true;
            //here the phone number is not valid so the boolean is true
        }

        if(check == true && phonevalidation == true){
            jLabel17.setText("Please select a different username and enter a
valid number");
        }
        else if(check == true && phonevalidation == false){
            jLabel17.setText("Please select a different username");
        }
        else if(check == false && phonevalidation == true){
            jLabel17.setText("Please enter a valid phone number");
        }
        else{
            AtlantisFuel.editUser(user, password, firstname, surname, email,
phone, currentUser);

            try {
                AtlantisFuel.deserialiseFuel();
            } catch (IOException ex) {
                Logger.getLogger(EditProfile.class.getName()).log(Level.SEVERE,
null, ex);
            }

            //changes username to new one in user's fuel entries
            for(int v = 0; v < AtlantisFuel.fuelConsumption.size(); v++){

if(AtlantisFuel.fuelConsumption.get(v).getUsername().equals(previousName)){
                    AtlantisFuel.fuelConsumption.get(v).setUsername(user);
                }
            }
```

```java
            try {
                AtlantisFuel.deserialiseVehicles();
            } catch (IOException ex) {
                Logger.getLogger(EditProfile.class.getName()).log(Level.SEVERE,
null, ex);
            }

            //changes username to new one in user's fuel entries
            for(int v = 0; v < AtlantisFuel.vehicles.size(); v++){

if(AtlantisFuel.vehicles.get(v).getUsername().equals(previousName)){
                    AtlantisFuel.vehicles.get(v).setUsername(user);
                }
            }

            /*code allowing user to control their units system throughout the
program would be inserted here*/

            AtlantisFuel.serialiseUser();
            AtlantisFuel.serialiseVehicles();
            AtlantisFuel.serialiseFuel();


            new HomePage(user).setVisible(true);
            HomePage.username = user;
            this.setVisible(false);
        }
    }


    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel2 = new javax.swing.JPanel();
        jLabel10 = new javax.swing.JLabel();
        jLabel11 = new javax.swing.JLabel();
        jLabel12 = new javax.swing.JLabel();
        jLabel13 = new javax.swing.JLabel();
        jLabel14 = new javax.swing.JLabel();
        jLabel15 = new javax.swing.JLabel();
        jTextField2 = new javax.swing.JTextField();
        jTextField7 = new javax.swing.JTextField();
        jTextField8 = new javax.swing.JTextField();
        jTextField9 = new javax.swing.JTextField();
        jTextField10 = new javax.swing.JTextField();
        jPasswordField2 = new javax.swing.JPasswordField();
```

```java
        jButton2 = new javax.swing.JButton();
        jLabel16 = new javax.swing.JLabel();
        jLabel17 = new javax.swing.JLabel();
        jPanel3 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel2.setBackground(new java.awt.Color(255, 255, 255));

        jLabel10.setBackground(new java.awt.Color(255, 255, 255));
        jLabel10.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel10.setForeground(new java.awt.Color(242, 128, 9));
        jLabel10.setText("Username:");

        jLabel11.setBackground(new java.awt.Color(255, 255, 255));
        jLabel11.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel11.setForeground(new java.awt.Color(242, 128, 9));
        jLabel11.setText("Email:");

        jLabel12.setBackground(new java.awt.Color(255, 255, 255));
        jLabel12.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel12.setForeground(new java.awt.Color(242, 128, 9));
        jLabel12.setText("Password:");

        jLabel13.setBackground(new java.awt.Color(255, 255, 255));
        jLabel13.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel13.setForeground(new java.awt.Color(242, 128, 9));
        jLabel13.setText("Firstname:");

        jLabel14.setBackground(new java.awt.Color(255, 255, 255));
        jLabel14.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel14.setForeground(new java.awt.Color(242, 128, 9));
        jLabel14.setText("Surname:");

        jLabel15.setBackground(new java.awt.Color(255, 255, 255));
        jLabel15.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel15.setForeground(new java.awt.Color(242, 128, 9));
        jLabel15.setText("Phone:");

        jTextField2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField2.setForeground(new java.awt.Color(242, 128, 9));
        jTextField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(213, 141, 87)));
        jTextField2.addActionListener(new java.awt.event.ActionListener() {
```

```java
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField2ActionPerformed(evt);
            }
        });
        jTextField2.addPropertyChangeListener(new
java.beans.PropertyChangeListener() {
            public void propertyChange(java.beans.PropertyChangeEvent evt) {
                jTextField2PropertyChange(evt);
            }
        });

        jTextField7.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField7.setForeground(new java.awt.Color(242, 128, 9));
        jTextField7.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(213, 141, 87)));
        jTextField7.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField7ActionPerformed(evt);
            }
        });

        jTextField8.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField8.setForeground(new java.awt.Color(242, 128, 9));
        jTextField8.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(213, 141, 87)));
        jTextField8.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField8ActionPerformed(evt);
            }
        });

        jTextField9.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField9.setForeground(new java.awt.Color(242, 128, 9));
        jTextField9.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(213, 141, 87)));
        jTextField9.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField9ActionPerformed(evt);
            }
        });

        jTextField10.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField10.setForeground(new java.awt.Color(242, 128, 9));
        jTextField10.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(213, 141, 87)));
        jTextField10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField10ActionPerformed(evt);
            }
        });
```

```java
        jPasswordField2.setFont(new java.awt.Font("Franklin Gothic Book", 0,
24)); // NOI18N
        jPasswordField2.setForeground(new java.awt.Color(242, 128, 9));
        jPasswordField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(213, 141, 87)));

        jButton2.setBackground(new java.awt.Color(255, 255, 255));
        jButton2.setFont(new java.awt.Font("Franklin Gothic Book", 1, 24)); //
NOI18N
        jButton2.setForeground(new java.awt.Color(242, 128, 9));
        jButton2.setText("Change");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2ActionPerformed(evt);
            }
        });

        jLabel16.setForeground(new java.awt.Color(243, 0, 0));

        jLabel17.setForeground(new java.awt.Color(255, 0, 0));

        jPanel3.setBackground(new java.awt.Color(8, 54, 193));
        jPanel3.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton4.setBackground(new java.awt.Color(239, 188, 79));
        jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton4.setText("Add A Fuel Entry");
        jButton4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton4ActionPerformed(evt);
            }
        });

        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });

        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel3Layout = new
```

```java
javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel3Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel3Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel3Layout.setVerticalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel3Layout.createSequentialGroup()
                .addGap(62, 62, 62)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                        .addGroup(jPanel2Layout.createSequentialGroup()
                            .addGap(626, 626, 626)
                            .addComponent(jLabel16))
                        .addGroup(jPanel2Layout.createSequentialGroup()
                            .addGap(245, 245, 245)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)
                                .addComponent(jLabel14,
javax.swing.GroupLayout.Alignment.LEADING)
                                .addComponent(jLabel13,
javax.swing.GroupLayout.Alignment.LEADING)
                                .addComponent(jLabel11,
javax.swing.GroupLayout.Alignment.LEADING)
                                .addComponent(jLabel15,
javax.swing.GroupLayout.Alignment.LEADING)
                                .addComponent(jButton2,
javax.swing.GroupLayout.Alignment.LEADING, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addGroup(jPanel2Layout.createSequentialGroup()
                                    .addComponent(jLabel17,
javax.swing.GroupLayout.PREFERRED_SIZE, 464,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(6, 6, 6))
                                .addGroup(jPanel2Layout.createSequentialGroup()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                        .addComponent(jLabel12)
                                        .addComponent(jLabel10))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                        .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jTextField9,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jPasswordField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jTextField10,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jTextField7,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jTextField8,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE))))))
                .addContainerGap(314, Short.MAX_VALUE))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(315, 315, 315)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel10)
                    .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel12)
                    .addComponent(jPasswordField2,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel13)
                    .addComponent(jTextField8,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel14)
                    .addComponent(jTextField7,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel11)
                    .addComponent(jTextField10,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel15)
                    .addComponent(jTextField9,
```

```java
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(35, 35, 35)
                .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE,
49, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
                .addComponent(jLabel17, javax.swing.GroupLayout.PREFERRED_SIZE,
29, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(42, 42, 42)
                .addComponent(jLabel16)
                .addContainerGap(112, Short.MAX_VALUE))
            .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE, 860,
Short.MAX_VALUE)
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {


    }

    private void jTextField2PropertyChange(java.beans.PropertyChangeEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField7ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField8ActionPerformed(java.awt.event.ActionEvent evt) {
```

```java
        // TODO add your handling code here:
    }

    private void jTextField9ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {


        editProfileButton();
    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
```

```java
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(EditProfile.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(EditProfile.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(EditProfile.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(EditProfile.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new EditProfile(username).setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton2;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    private javax.swing.JLabel jLabel10;
    private javax.swing.JLabel jLabel11;
    private javax.swing.JLabel jLabel12;
    private javax.swing.JLabel jLabel13;
    private javax.swing.JLabel jLabel14;
    private javax.swing.JLabel jLabel15;
    private javax.swing.JLabel jLabel16;
    private javax.swing.JLabel jLabel17;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JPanel jPanel3;
    private javax.swing.JPasswordField jPasswordField2;
    private javax.swing.JTextField jTextField10;
    private javax.swing.JTextField jTextField2;
    private javax.swing.JTextField jTextField7;
    private javax.swing.JTextField jTextField8;
    private javax.swing.JTextField jTextField9;
    // End of variables declaration
```

```java
}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package View;
import Controller.*;
import static View.HomePage.username;
import static View.ViewVehicles.nameOfVehicle;
import java.io.IOException;
import java.util.Calendar;
import java.util.logging.Level;
import java.util.logging.Logger;


public class EditVehicle extends javax.swing.JFrame {

    //public static String dateMonth = null;
    public static String previousVehicleName = nameOfVehicle;
    public static int index = 0;
    public static int monthBought;

    public EditVehicle(String username, String nameOfVehicle) {
        initComponents();

        int currentDay = 1;
        while(currentDay < 32){
            jComboBox3.addItem(Integer.toString(currentDay));
            currentDay = currentDay + 1;
        }

        EditVehicle.jComboBox2.addItem("Jan");
        EditVehicle.jComboBox2.addItem("Feb");
        EditVehicle.jComboBox2.addItem("Mar");
        EditVehicle.jComboBox2.addItem("Apr");
        EditVehicle.jComboBox2.addItem("May");
        EditVehicle.jComboBox2.addItem("Jun");
        EditVehicle.jComboBox2.addItem("Jul");
        EditVehicle.jComboBox2.addItem("Aug");
        EditVehicle.jComboBox2.addItem("Sep");
        EditVehicle.jComboBox2.addItem("Oct");
        EditVehicle.jComboBox2.addItem("Nov");
        EditVehicle.jComboBox2.addItem("Dec");

        int year = Calendar.getInstance().get(Calendar.YEAR);
        for(int y = 0; y < 20; y++){
            EditVehicle.jComboBox1.addItem(Integer.toString(year-y));
        }

        try {
            AtlantisFuel.deserialiseVehicles();
        } catch (IOException ex) {
```

```java
                Logger.getLogger(EditVehicle.class.getName()).log(Level.SEVERE,
null, ex);
        }

        //setting the information
        boolean find = false;
        int c = 0;
        while(find == false && c < AtlantisFuel.vehicles.size()){

if(AtlantisFuel.vehicles.get(c).getUsername().equals(HomePage.username) &&
AtlantisFuel.vehicles.get(c).getNameOfVehicle().equals(nameOfVehicle)){
                jTextField2.setText(nameOfVehicle);

jComboBox3.setSelectedItem(String.valueOf(AtlantisFuel.vehicles.get(c).getDayBou
ght()));

jComboBox2.setSelectedItem(AtlantisFuel.vehicles.get(c).getMonthBought());
                if(AtlantisFuel.vehicles.get(c).getMonthBought() == 1){
                    jComboBox2.setSelectedItem("Jan");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 2){
                    jComboBox2.setSelectedItem("Feb");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 3){
                    jComboBox2.setSelectedItem("Mar");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 4){
                    jComboBox2.setSelectedItem("Apr");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 5){
                    jComboBox2.setSelectedItem("May");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 6){
                    jComboBox2.setSelectedItem("Jun");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 7){
                    jComboBox2.setSelectedItem("Jul");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 8){
                    jComboBox2.setSelectedItem("Aug");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 9){
                    jComboBox2.setSelectedItem("Sep");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 10){
                    jComboBox2.setSelectedItem("Oct");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 11){
                    jComboBox2.setSelectedItem("Nov");
                } else if(AtlantisFuel.vehicles.get(c).getMonthBought() == 12){
                    jComboBox2.setSelectedItem("Dec");
                }

jComboBox1.setSelectedItem(String.valueOf(AtlantisFuel.vehicles.get(c).getYearBo
ught()));
                if(AtlantisFuel.vehicles.get(c).isFourWheelDrive() == true){
                    jCheckBox1.setSelected(true);
                }
                find = true;

            } else{
                c = c+1;
            }
```

```java
        }

//          int dateDay = AtlantisFuel.vehicles.get(index).getDayBought();
//          jComboBox3.setSelectedIndex(dateDay-1);
//          int dateMonth1 = AtlantisFuel.vehicles.get(index).getMonthBought();
//          jComboBox2.setSelectedIndex(dateMonth1-1);
//          int dateYear = AtlantisFuel.vehicles.get(index).getYearBought();
//          jComboBox1.setSelectedIndex(dateYear-2020);
//          //this whole year thing needs to be editted !!!!!
    }

    public void changeButton(){
        String day1 = (String)jComboBox3.getSelectedItem();
        int dayBought = Integer.valueOf(day1);

        String month1 = (String)jComboBox2.getSelectedItem();

        if(month1.equals("Jan")){
            monthBought = 1;
        } else if(month1.equals("Feb")){
            monthBought = 2;
        } else if(month1.equals("Mar")){
            monthBought = 3;
        } else if(month1.equals("Apr")){
            monthBought = 4;
        } else if(month1.equals("May")){
            monthBought = 5;
        } else if(month1.equals("Jun")){
            monthBought = 6;
        } else if(month1.equals("Jul")){
            monthBought = 7;
        } else if(month1.equals("Aug")){
            monthBought = 8;
        } else if(month1.equals("Sep")){
            monthBought = 9;
        } else if(month1.equals("Oct")){
            monthBought = 10;
        } else if(month1.equals("Nov")){
            monthBought = 11;
        } else if(month1.equals("Dec")){
            monthBought = 12;
        }

        String year1 = (String)jComboBox1.getSelectedItem();
        int yearBought = Integer.valueOf(year1);

        boolean fourWheelDrive = false;
        if(jCheckBox1.isSelected()){
            fourWheelDrive = true;
        }

        String nameOfVehicle = jTextField2.getText();
        boolean duplicate = false;
```

```java
        if(nameOfVehicle.equals("")){
            jLabel7.setText("Please enter a name");
        }
        else{
            try {
                AtlantisFuel.deserialiseVehicles();
            } catch (IOException ex) {
                Logger.getLogger(EditVehicle.class.getName()).log(Level.SEVERE,
null, ex);
            }

            //need to check if the user has another vehicle with the same name
            int var = 0;
            while(duplicate == false && var < AtlantisFuel.vehicles.size()){
                    //  right here if the vehicle name is not changed it will
come up as a duplicate

if(AtlantisFuel.vehicles.get(var).getUsername().equals(username) &&
nameOfVehicle.equals(previousVehicleName)){
                        break;
                    } else
if(AtlantisFuel.vehicles.get(var).getUsername().equals(username) &&
AtlantisFuel.vehicles.get(var).getNameOfVehicle().equals(nameOfVehicle)){
                            //if user already has vehicle with this name
                            jLabel7.setText("You already have a vehicle with
this name. Please choose another name.");
                            duplicate = true;
                    } else {
                        var = var + 1;
                    }

            }

            if(duplicate == false){
                try {
                    AtlantisFuel.deserialiseFuel();
                } catch (IOException ex) {

Logger.getLogger(EditVehicle.class.getName()).log(Level.SEVERE, null, ex);
                }

                //find index
                for(int i = 0; i < AtlantisFuel.vehicles.size(); i++){

if(AtlantisFuel.vehicles.get(i).getUsername().equals(username) &&
AtlantisFuel.vehicles.get(i).getNameOfVehicle().equals(previousVehicleName)){
                        index = i;
                        break;
                    }
                }

                AtlantisFuel.editVehicle(index, username, nameOfVehicle,
dayBought, monthBought, yearBought, fourWheelDrive);
                //change vehicle in entries
```

```java
            for(int count = 0; count < AtlantisFuel.fuelConsumption.size();
count++){

if(AtlantisFuel.fuelConsumption.get(count).getUsername().equals(HomePage.usernam
e) &&
AtlantisFuel.fuelConsumption.get(count).getVehicleName().equals(previousVehicleN
ame)){

AtlantisFuel.fuelConsumption.get(count).setVehicleName(nameOfVehicle);
                }
            }

            AtlantisFuel.serialiseVehicles();
        }
    }
}



    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel5 = new javax.swing.JLabel();
        jComboBox1 = new javax.swing.JComboBox<>();
        jComboBox2 = new javax.swing.JComboBox<>();
        jComboBox3 = new javax.swing.JComboBox<>();
        jLabel1 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();
        jLabel7 = new javax.swing.JLabel();
        jCheckBox1 = new javax.swing.JCheckBox();
        jTextField2 = new javax.swing.JTextField();
        jLabel4 = new javax.swing.JLabel();
        jPanel8 = new javax.swing.JPanel();
        jButton20 = new javax.swing.JButton();
        jButton21 = new javax.swing.JButton();
        jButton22 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jLabel5.setBackground(new java.awt.Color(239, 240, 245));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setText("New Day");

        jComboBox1.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
```

```java
        jComboBox1.setForeground(new java.awt.Color(12, 12, 20));

        jComboBox2.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox2.setForeground(new java.awt.Color(12, 12, 20));

        jComboBox3.setBackground(new java.awt.Color(239, 240, 245));
        jComboBox3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jComboBox3.setForeground(new java.awt.Color(12, 12, 20));
        jComboBox3.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox3ActionPerformed(evt);
            }
        });

        jLabel1.setBackground(new java.awt.Color(239, 240, 245));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel1.setText("New Month");

        jLabel3.setBackground(new java.awt.Color(239, 240, 245));
        jLabel3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel3.setText("New Year");

        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jButton1.setText("Change");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jLabel7.setText(".");

        jCheckBox1.setBackground(new java.awt.Color(239, 240, 245));
        jCheckBox1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jCheckBox1.setText("     Is this vehicle a four wheel drive?");
        jCheckBox1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jCheckBox1ActionPerformed(evt);
            }
        });

        jTextField2.setBackground(new java.awt.Color(239, 240, 245));
        jTextField2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(12, 12, 20)));
        jTextField2.addActionListener(new java.awt.event.ActionListener() {
```

```java
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField2ActionPerformed(evt);
            }
        });

        jLabel4.setBackground(new java.awt.Color(239, 240, 245));
        jLabel4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel4.setText("New Name");

        jPanel8.setBackground(new java.awt.Color(8, 54, 193));
        jPanel8.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton20.setBackground(new java.awt.Color(239, 188, 79));
        jButton20.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton20.setText("Add A Fuel Entry");
        jButton20.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton20ActionPerformed(evt);
            }
        });

        jButton21.setBackground(new java.awt.Color(239, 188, 79));
        jButton21.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton21.setText("Add Your Vehicles");
        jButton21.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton21ActionPerformed(evt);
            }
        });

        jButton22.setBackground(new java.awt.Color(8, 54, 193));
        jButton22.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton22.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton22ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel8Layout = new
javax.swing.GroupLayout(jPanel8);
        jPanel8.setLayout(jPanel8Layout);
        jPanel8Layout.setHorizontalGroup(

jPanel8Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel8Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel8Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton20,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
```

```java
Short.MAX_VALUE)
                    .addComponent(jButton21,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel8Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton22, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel8Layout.setVerticalGroup(

jPanel8Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel8Layout.createSequentialGroup()
                .addGap(43, 43, 43)
                .addComponent(jButton22, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 231,
Short.MAX_VALUE)
                .addComponent(jButton21, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton20, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel8, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 9,
Short.MAX_VALUE)
                        .addComponent(jLabel7,
javax.swing.GroupLayout.PREFERRED_SIZE, 633,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(388, 388, 388))
                    .addGroup(jPanel1Layout.createSequentialGroup()
```

```
                                        .addGap(175, 175, 175)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                    .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                            .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                            .addComponent(jLabel5,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                            .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)

.addGroup(jPanel1Layout.createSequentialGroup()
                                                .addComponent(jLabel3,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                                .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                            .addComponent(jCheckBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 633,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                            .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 633,
javax.swing.GroupLayout.PREFERRED_SIZE)))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 1,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                    .addComponent(jComboBox3,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 331,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
```

```
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addGap(233, 233, 233)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
97, Short.MAX_VALUE)
                    .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(0, 2, Short.MAX_VALUE)
                        .addComponent(jComboBox3,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addComponent(jLabel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(48, 48, 48)
                        .addComponent(jLabel1,
javax.swing.GroupLayout.DEFAULT_SIZE, 30, Short.MAX_VALUE))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                        .addGap(27, 27, 27)
                        .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGap(35, 35, 35)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(39, 39, 39)
                .addComponent(jCheckBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
```

```
                .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE,
50, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(121, 121, 121)
                .addComponent(jLabel7)
                .addGap(41, 41, 41))
            .addComponent(jPanel8, javax.swing.GroupLayout.DEFAULT_SIZE, 868,
Short.MAX_VALUE)
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jComboBox3ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        changeButton();
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    private void jCheckBox1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        //cost
    }

    private void jButton20ActionPerformed(java.awt.event.ActionEvent evt) {
```

```java
        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton21ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton22ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(EditVehicle.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(EditVehicle.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(EditVehicle.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(EditVehicle.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
```

```java
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new EditVehicle(username, nameOfVehicle).setVisible(true);
                //VIEWVEHICLES2.setVisible(false);

            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton20;
    private javax.swing.JButton jButton21;
    private javax.swing.JButton jButton22;
    private javax.swing.JCheckBox jCheckBox1;
    public static javax.swing.JComboBox<String> jComboBox1;
    public static javax.swing.JComboBox<String> jComboBox2;
    public static javax.swing.JComboBox<String> jComboBox3;
    public static javax.swing.JLabel jLabel1;
    public static javax.swing.JLabel jLabel3;
    public static javax.swing.JLabel jLabel4;
    public static javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel8;
    private javax.swing.JTextField jTextField2;
    // End of variables declaration
}

package View;
import Controller.*;
import java.io.IOException;
import java.util.logging.Level;
import java.util.logging.Logger;

public class HomePage extends javax.swing.JFrame {

    public static String username = Login.username;

    public HomePage(String username) {
        initComponents();

        int index = AtlantisFuel.findUser(username);
        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(HomePage.class.getName()).log(Level.SEVERE, null,
ex);
        }
        jLabel1.setText("Hello " +
```

```
                AtlantisFuel.users.get(index).getFirstname());
          //AtlantisFuel.serialiseUser();

    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jPanel2 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();
        jButton2 = new javax.swing.JButton();
        jButton6 = new javax.swing.JButton();
        jButton7 = new javax.swing.JButton();
        jButton8 = new javax.swing.JButton();
        jButton9 = new javax.swing.JButton();
        jButton1 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setBackground(new java.awt.Color(239, 91, 94));

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jPanel2.setBackground(new java.awt.Color(8, 54, 193));
        jPanel2.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton4.setBackground(new java.awt.Color(239, 188, 79));
        jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton4.setText("Add A Fuel Entry");
        jButton4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton4ActionPerformed(evt);
            }
        });

        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });
```

```java
        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addGap(43, 43, 43)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );
```

```java
        jLabel1.setBackground(new java.awt.Color(239, 240, 245));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 1, 40)); //
NOI18N
        jLabel1.setText("Hello");

        jButton2.setBackground(new java.awt.Color(242, 128, 9));
        jButton2.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton2.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/profile_icon.png"))); //
NOI18N
        jButton2.setText("Edit My Profile");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2ActionPerformed(evt);
            }
        });

        jButton6.setBackground(new java.awt.Color(242, 128, 9));
        jButton6.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton6.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/pie_chart_icon.png"))); //
NOI18N
        jButton6.setText("View Statistics By Fuel Type");
        jButton6.setActionCommand("");
        jButton6.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton6ActionPerformed(evt);
            }
        });

        jButton7.setBackground(new java.awt.Color(242, 128, 9));
        jButton7.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton7.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/bar_chart_icon.png"))); //
NOI18N
        jButton7.setText("View Statistics By Date");
        jButton7.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton7ActionPerformed(evt);
            }
        });

        jButton8.setBackground(new java.awt.Color(242, 128, 9));
        jButton8.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton8.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/list_icon.png"))); // NOI18N
        jButton8.setText("View All Entries");
        jButton8.setToolTipText("");
        jButton8.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton8ActionPerformed(evt);
            }
        });
```

```java
        jButton9.setBackground(new java.awt.Color(242, 128, 9));
        jButton9.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton9.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/bar_graph_icon.png"))); //
NOI18N
        jButton9.setText("View Statistics By Cost");
        jButton9.setToolTipText("");
        jButton9.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton9ActionPerformed(evt);
            }
        });

        jButton1.setBackground(new java.awt.Color(242, 128, 9));
        jButton1.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton1.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/vehicle_icon.png"))); //
NOI18N
        jButton1.setText("View Vehicles");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(64, 64, 64)
                        .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 580,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 110,
Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)
                            .addComponent(jButton1,
```

```
                    javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                        .addComponent(jButton2,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                        .addComponent(jButton8,
javax.swing.GroupLayout.DEFAULT_SIZE, 357, Short.MAX_VALUE))
                            .addGap(65, 65, 65)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                        .addComponent(jButton6,
javax.swing.GroupLayout.Alignment.TRAILING)
                                        .addComponent(jButton9,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 357,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(jButton7,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 357,
javax.swing.GroupLayout.PREFERRED_SIZE))
                            .addGap(140, 140, 140))))
            );
            jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(39, 39, 39)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE,
69, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 187,
Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton7,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton1,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addGap(58, 58, 58)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jButton9)
                    .addComponent(jButton2))
                .addGap(53, 53, 53)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jButton6)
                    .addComponent(jButton8))
```

```java
                .addGap(129, 129, 129))
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, 862,
Short.MAX_VALUE)
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

        new EditProfile(username).setVisible(true);
        this.setVisible(false);

    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

    new ViewVehicles().setVisible(true);
//        ViewVehicles.main(null);
//        new ViewVehicles(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }
```

```java
    private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new ViewFuelTypes(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton7ActionPerformed(java.awt.event.ActionEvent evt) {

        new ViewTimelyUsage().setVisible(true);
        this.setVisible(false);
    }

    private void jButton8ActionPerformed(java.awt.event.ActionEvent evt) {

        new ViewEntries().setVisible(true);
        this.setVisible(false);
    }

    private void jButton9ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new ViewFuelCost().setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
```

```java
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new HomePage(username).setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton2;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    private javax.swing.JButton jButton6;
    private javax.swing.JButton jButton7;
    private javax.swing.JButton jButton8;
    private javax.swing.JButton jButton9;
    public static javax.swing.JLabel jLabel1;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    // End of variables declaration
}

package View;
import Controller.*;
import java.io.IOException;
import java.util.logging.Level;
import java.util.logging.Logger;

public class Login extends javax.swing.JFrame {

    public static String username;
    public static String password;
```

```java
    public Login() {
        initComponents();
    }

    public void loginButton(){
        //login validation method

        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(Login.class.getName()).log(Level.SEVERE, null, ex);
        }

        username = jTextField2.getText();
        password = jPasswordField1.getText();
        boolean found = false;
        int j = 0;

        while(found == false && j < AtlantisFuel.users.size()){
            if(username.equals(AtlantisFuel.users.get(j).getUsername()) &&
                    password.equals(AtlantisFuel.users.get(j).getPassword())){
                this.setVisible(false);
                new HomePage(username).setVisible(true);

                System.out.println("HOMEPAGE OPENED!");
                found = true;
            }
            else{
                j = j + 1;
            }
        }

        if(found == false){
            jLabel5.setText("Your login details are incorrect.");
        }


//        System.out.println("gonna start loop - variables identified");
//        while(found == false & j < (AtlantisFuel.users.size())){
//            System.out.println("STARTED LOOP");
//            if(username.equals(AtlantisFuel.users.get(j).getUsername()) &&
password.equals(AtlantisFuel.users.get(j).getPassword())){
//                System.out.println("if statement identified");
//                //if username ans password match
//                new HomePage(username).setVisible(true);
//                this.setVisible(false); //closes loginGUI
//                System.out.println("HOMEPAGE OPENED");
//                found = true;//ends loop
//            }
//            else{
//                j = j + 1;
//            }
```

```java
//        }
//
//        if(found == false){//if the username/password are incorrect/do not
exist
//            jLabel5.setText("Invalid Login");
//        }

        //AtlantisFuel.serialiseUser();
    }

    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jTextField2 = new javax.swing.JTextField();
        jPasswordField1 = new javax.swing.JPasswordField();
        jButton1 = new javax.swing.JButton();
        jLabel5 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jButton2 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 1, 36)); //
NOI18N
        jLabel1.setForeground(new java.awt.Color(8, 54, 193));
        jLabel1.setText("welcome to atlantis fuel");

        jLabel2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 26)); //
NOI18N
        jLabel2.setForeground(new java.awt.Color(8, 54, 193));
        jLabel2.setText("Password:");

        jLabel3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 26)); //
NOI18N
        jLabel3.setForeground(new java.awt.Color(8, 54, 193));
        jLabel3.setText("Username: ");

        jTextField2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 27));
// NOI18N
        jTextField2.setForeground(new java.awt.Color(8, 54, 193));
        jTextField2.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(239, 240, 245)));
        jTextField2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField2ActionPerformed(evt);
            }
```

```java
        });

        jPasswordField1.setFont(new java.awt.Font("Franklin Gothic Book", 0,
27)); // NOI18N
        jPasswordField1.setForeground(new java.awt.Color(8, 54, 193));
        jPasswordField1.setBorder(javax.swing.BorderFactory.createLineBorder(new
java.awt.Color(239, 240, 245)));
        jPasswordField1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jPasswordField1ActionPerformed(evt);
            }
        });

        jButton1.setBackground(new java.awt.Color(255, 255, 255));
        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 30)); //
NOI18N
        jButton1.setForeground(new java.awt.Color(8, 54, 193));
        jButton1.setText("Sign In");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jLabel5.setBackground(new java.awt.Color(0, 0, 0));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setForeground(new java.awt.Color(255, 0, 0));

        jLabel4.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jLabel4.setText("jLabel4");

        jButton2.setBackground(new java.awt.Color(255, 255, 255));
        jButton2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 30)); //
NOI18N
        jButton2.setForeground(new java.awt.Color(8, 54, 193));
        jButton2.setText("Back to Start");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
```

```java
ADING)
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addGap(608, 608, 608)
                            .addComponent(jLabel3))
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addGap(611, 611, 611)
                            .addComponent(jLabel2))
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addGap(387, 387, 387)
                            .addComponent(jLabel5,
javax.swing.GroupLayout.PREFERRED_SIZE, 411,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addGap(556, 556, 556)
                            .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 195,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addContainerGap(493, Short.MAX_VALUE))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                    .addGap(0, 0, Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                            .addComponent(jLabel1)
                            .addGap(428, 428, 428))
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING)
                                .addGroup(jPanel1Layout.createSequentialGroup()
                                    .addComponent(jButton2)
                                    .addGap(18, 18, 18)
                                    .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 194,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                    .addComponent(jPasswordField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 411,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 411,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                            .addGap(417, 417, 417))))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
```

```java
                .addGap(102, 102, 102)
                .addComponent(jLabel4)
                .addGap(88, 88, 88)
                .addComponent(jLabel1)
                .addGap(42, 42, 42)
                .addComponent(jLabel3)
                .addGap(18, 18, 18)
                .addComponent(jTextField2,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(55, 55, 55)
                .addComponent(jLabel2)
                .addGap(18, 18, 18)
                .addComponent(jPasswordField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 48,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jButton1)
                    .addComponent(jButton2))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE,
25, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(85, 85, 85))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
850, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {
```

```java
        // TODO add your handling code here:
    }

    private void jPasswordField1ActionPerformed(java.awt.event.ActionEvent evt)
{

    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        loginButton();
    }

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new StartPage().setVisible(true);
        this.setVisible(false);
    }


    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);
```

```java
        }
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Login().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton2;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    public javax.swing.JLabel jLabel5;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPasswordField jPasswordField1;
    private javax.swing.JTextField jTextField2;
    // End of variables declaration
}

package View;

import Controller.AtlantisFuel;
import java.io.IOException;
import java.util.logging.Level;
import java.util.logging.Logger;

public class Signup extends javax.swing.JFrame {

    public Signup() {
        initComponents();
    }

    public void signupButton(){
        String username = jTextField1.getText();

        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(Signup.class.getName()).log(Level.SEVERE, null,
ex);
        }

        //check username is unique:
        int k = 0;
        boolean check = false;
        while(k < AtlantisFuel.users.size() && check == false){
            if(AtlantisFuel.users.get(k).getUsername().equals(username)){
```

```java
                check = true;

            }
            else{
                k = k + 1;
            }
        }

        String password = jPasswordField1.getText();
        String firstname = jTextField4.getText();
        String surname = jTextField3.getText();
        String email = jTextField6.getText();
        String phone1 = jTextField5.getText();
        int phone = 0;

        boolean phonevalidation = false;
        if(phone1.matches("^[0-9]*$")){
            //if the string contains only numbers - the entry is valid
            phone = Integer.valueOf(phone1);
        }
        else{
            phonevalidation = true;
        }

        if(check == true && phonevalidation == true){
            jLabel8.setText("Please select a different username and enter a
valid number");
        }
        else if(check == true && phonevalidation == false){
            jLabel8.setText("Please select a different username");
        }
        else if(check == false && phonevalidation == true){
            jLabel8.setText("Please enter a valid phone number");
        }
        else{
            AtlantisFuel.addUser(username, password, firstname, surname, email,
phone);
            new StartPage().setVisible(true);
            this.setVisible(false);
        }

        AtlantisFuel.serialiseUser();
        System.out.println("serialized in signup");

    }

    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
```

```java
        jLabel3 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jLabel7 = new javax.swing.JLabel();
        jTextField1 = new javax.swing.JTextField();
        jTextField3 = new javax.swing.JTextField();
        jTextField4 = new javax.swing.JTextField();
        jTextField5 = new javax.swing.JTextField();
        jTextField6 = new javax.swing.JTextField();
        jPasswordField1 = new javax.swing.JPasswordField();
        jButton1 = new javax.swing.JButton();
        jLabel8 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel9 = new javax.swing.JLabel();
        jButton2 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jLabel1.setBackground(new java.awt.Color(12, 12, 20));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel1.setForeground(new java.awt.Color(8, 54, 193));
        jLabel1.setText("Username:");

        jLabel2.setBackground(new java.awt.Color(12, 12, 20));
        jLabel2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel2.setForeground(new java.awt.Color(8, 54, 193));
        jLabel2.setText("Email:");

        jLabel3.setBackground(new java.awt.Color(12, 12, 20));
        jLabel3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel3.setForeground(new java.awt.Color(8, 54, 193));
        jLabel3.setText("Password:");

        jLabel5.setBackground(new java.awt.Color(12, 12, 20));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setForeground(new java.awt.Color(8, 54, 193));
        jLabel5.setText("Firstname:");

        jLabel6.setBackground(new java.awt.Color(12, 12, 20));
        jLabel6.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel6.setForeground(new java.awt.Color(8, 54, 193));
        jLabel6.setText("Surname:");

        jLabel7.setBackground(new java.awt.Color(12, 12, 20));
        jLabel7.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel7.setForeground(new java.awt.Color(8, 54, 193));
```

```java
        jLabel7.setText("Phone:");

        jTextField1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField1.setForeground(new java.awt.Color(8, 54, 193));
        jTextField1.setBorder(javax.swing.BorderFactory.createEtchedBorder());
        jTextField1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField1ActionPerformed(evt);
            }
        });

        jTextField3.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField3.setForeground(new java.awt.Color(8, 54, 193));
        jTextField3.setBorder(javax.swing.BorderFactory.createEtchedBorder());
        jTextField3.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField3ActionPerformed(evt);
            }
        });

        jTextField4.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField4.setForeground(new java.awt.Color(8, 54, 193));
        jTextField4.setBorder(javax.swing.BorderFactory.createEtchedBorder());
        jTextField4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField4ActionPerformed(evt);
            }
        });

        jTextField5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField5.setForeground(new java.awt.Color(8, 54, 193));
        jTextField5.setBorder(javax.swing.BorderFactory.createEtchedBorder());
        jTextField5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField5ActionPerformed(evt);
            }
        });

        jTextField6.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24));
// NOI18N
        jTextField6.setForeground(new java.awt.Color(8, 54, 193));
        jTextField6.setBorder(javax.swing.BorderFactory.createEtchedBorder());
        jTextField6.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField6ActionPerformed(evt);
            }
        });

        jPasswordField1.setFont(new java.awt.Font("Franklin Gothic Book", 0,
24)); // NOI18N
```

```java
        jPasswordField1.setForeground(new java.awt.Color(8, 54, 193));

jPasswordField1.setBorder(javax.swing.BorderFactory.createEtchedBorder());

        jButton1.setBackground(new java.awt.Color(255, 255, 255));
        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 30)); //
NOI18N
        jButton1.setForeground(new java.awt.Color(8, 54, 193));
        jButton1.setText("Sign Up");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jLabel8.setForeground(new java.awt.Color(243, 0, 0));

        jLabel4.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jLabel4.setText("jLabel4");

        jLabel9.setFont(new java.awt.Font("Franklin Gothic Book", 1, 36)); //
NOI18N
        jLabel9.setForeground(new java.awt.Color(8, 54, 193));
        jLabel9.setText("welcome to atlantis fuel");

        jButton2.setBackground(new java.awt.Color(255, 255, 255));
        jButton2.setFont(new java.awt.Font("Franklin Gothic Book", 0, 30)); //
NOI18N
        jButton2.setForeground(new java.awt.Color(8, 54, 193));
        jButton2.setText("Back to Start");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(433, 433, 433)
                        .addComponent(jLabel9,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addGroup(jPanel1Layout.createSequentialGroup()
```

```
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                        .addGroup(jPanel1Layout.createSequentialGroup()
                                            .addGap(406, 406, 406)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING, false)
                                                    .addComponent(jLabel6,
javax.swing.GroupLayout.Alignment.LEADING)
                                                    .addComponent(jLabel5,
javax.swing.GroupLayout.Alignment.LEADING)
                                                    .addComponent(jLabel2,
javax.swing.GroupLayout.Alignment.LEADING)
                                                    .addComponent(jLabel7,
javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.LEADING,
jPanel1Layout.createSequentialGroup()
                                                        .addComponent(jLabel1)
                                                        .addGap(47, 47, 47)
                                                        .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(jPanel1Layout.createSequentialGroup()
                                                        .addComponent(jLabel3)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                                                            .addComponent(jTextField5,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                                            .addComponent(jPasswordField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                                            .addComponent(jTextField6,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                                            .addComponent(jTextField3,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                                            .addComponent(jTextField4,
javax.swing.GroupLayout.PREFERRED_SIZE, 305,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                                        .addComponent(jLabel8,
javax.swing.GroupLayout.PREFERRED_SIZE, 464,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                    .addGroup(jPanel1Layout.createSequentialGroup()
                                            .addComponent(jButton2,
javax.swing.GroupLayout.PREFERRED_SIZE, 210,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                            .addGap(44, 44, 44)
                                            .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 210,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                            .addGroup(jPanel1Layout.createSequentialGroup()
                                .addGap(525, 525, 525)
                                .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 195,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                            .addGap(0, 398, Short.MAX_VALUE)))
                .addContainerGap())
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(86, 86, 86)
                .addComponent(jLabel4)
                .addGap(46, 46, 46)
                .addComponent(jLabel9)
                .addGap(47, 47, 47)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel1)
                    .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel3)
                    .addComponent(jPasswordField1,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel5)
                    .addComponent(jTextField4,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jLabel6)
```

```java
                        .addComponent(jTextField3,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jLabel2)
                        .addComponent(jTextField6,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jLabel7)
                        .addComponent(jTextField5,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(35, 35, 35)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                        .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 49,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jButton2,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addGap(133, 133, 133)
                    .addComponent(jLabel8)
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, 843,
javax.swing.GroupLayout.PREFERRED_SIZE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>
```

```java
    private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField3ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField4ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jTextField6ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        signupButton();

    }

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new StartPage().setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
```

```java
                    if ("Nimbus".equals(info.getName())) {
                        javax.swing.UIManager.setLookAndFeel(info.getClassName());
                        break;
                    }
                }
            } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging
.Level.SEVERE, null, ex);
            } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging
.Level.SEVERE, null, ex);
            } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging
.Level.SEVERE, null, ex);
            } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging
.Level.SEVERE, null, ex);
            }
            //</editor-fold>
            //</editor-fold>

            /* Create and display the form */
            java.awt.EventQueue.invokeLater(new Runnable() {
                public void run() {
                    new Signup().setVisible(true);
                }
            });
        }

        // Variables declaration - do not modify
        private javax.swing.JButton jButton1;
        private javax.swing.JButton jButton2;
        private javax.swing.JLabel jLabel1;
        private javax.swing.JLabel jLabel2;
        private javax.swing.JLabel jLabel3;
        private javax.swing.JLabel jLabel4;
        private javax.swing.JLabel jLabel5;
        private javax.swing.JLabel jLabel6;
        private javax.swing.JLabel jLabel7;
        private javax.swing.JLabel jLabel8;
        private javax.swing.JLabel jLabel9;
        private javax.swing.JPanel jPanel1;
        private javax.swing.JPasswordField jPasswordField1;
        private javax.swing.JTextField jTextField1;
        private javax.swing.JTextField jTextField3;
        private javax.swing.JTextField jTextField4;
        private javax.swing.JTextField jTextField5;
        private javax.swing.JTextField jTextField6;
        // End of variables declaration
}
```

```java
package View;

public class StartPage extends javax.swing.JFrame {

    /**
     * Creates new form StartPage
     */
    public StartPage() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel4 = new javax.swing.JLabel();
        jLabel1 = new javax.swing.JLabel();
        jButton2 = new javax.swing.JButton();
        jButton1 = new javax.swing.JButton();
        jLabel5 = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setBackground(new java.awt.Color(255, 255, 255));

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jLabel4.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jLabel4.setText("jLabel4");

        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 1, 36)); //
NOI18N
        jLabel1.setForeground(new java.awt.Color(8, 54, 193));
        jLabel1.setText("welcome to atlantis fuel");

        jButton2.setBackground(new java.awt.Color(255, 255, 255));
        jButton2.setFont(new java.awt.Font("Franklin Gothic Book", 1, 36)); //
NOI18N
        jButton2.setForeground(new java.awt.Color(0, 0, 204));
        jButton2.setText("Sign Up");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2ActionPerformed(evt);
            }
        });
```

```java
        jButton1.setBackground(new java.awt.Color(255, 255, 255));
        jButton1.setFont(new java.awt.Font("Franklin Gothic Book", 1, 36)); //
NOI18N
        jButton1.setForeground(new java.awt.Color(0, 0, 204));
        jButton1.setText("Log In");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jLabel5.setBackground(new java.awt.Color(0, 0, 0));
        jLabel5.setFont(new java.awt.Font("Franklin Gothic Book", 0, 24)); //
NOI18N
        jLabel5.setForeground(new java.awt.Color(255, 0, 0));

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addGap(140, 140, 140)
                .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE,
446, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 138,
Short.MAX_VALUE)
                .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE,
446, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(130, 130, 130))
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(437, 437, 437)
                        .addComponent(jLabel1))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(547, 547, 547)
                        .addComponent(jLabel4,
javax.swing.GroupLayout.PREFERRED_SIZE, 195,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(462, 462, 462)
                        .addComponent(jLabel5,
javax.swing.GroupLayout.PREFERRED_SIZE, 411,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
```

```java
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap(70, Short.MAX_VALUE)
                .addComponent(jLabel4)
                .addGap(44, 44, 44)
                .addComponent(jLabel1)
                .addGap(60, 60, 60)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
                    .addComponent(jButton2,
javax.swing.GroupLayout.PREFERRED_SIZE, 265,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE, 265,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(82, 82, 82)
                .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE,
25, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(27, 27, 27))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:\
        new Login().setVisible(true);
        this.setVisible(false);
    }

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
```

```java
        new Signup().setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(StartPage.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(StartPage.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(StartPage.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(StartPage.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new StartPage().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton2;
```

```java
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JPanel jPanel1;
    // End of variables declaration
}

package View;
import Controller.AtlantisFuel;
import Model.FuelConsumption;
import static View.HomePage.username;
import com.lowagie.text.Chapter;
import com.lowagie.text.Document;
import com.lowagie.text.DocumentException;
import com.lowagie.text.Paragraph;
import com.lowagie.text.pdf.PdfPTable;
import com.lowagie.text.pdf.PdfWriter;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.util.Collections;
import java.util.Comparator;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JTable;

public class ViewEntries extends javax.swing.JFrame {

    public static long fuelID;

    public ViewEntries() {
        initComponents();
        AtlantisFuel.addRowToJTable();

        //jLabel1.setText("Hello" + HomePage.username);

        int index = AtlantisFuel.findUser(HomePage.username);
        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(HomePage.class.getName()).log(Level.SEVERE, null,
ex);
        }
        jLabel1.setText("Hello " +
AtlantisFuel.users.get(index).getFirstname());
        AtlantisFuel.serialiseUser();

    }

    //it is unclear whether this is successful on a macbook becuase of the file
address system?!

    public void downloadPDF(){
```

```java
        try {
            AtlantisFuel.deserialiseUser();
        } catch (IOException ex) {
            Logger.getLogger(ViewEntries.class.getName()).log(Level.SEVERE,
null, ex);
        }

        String home = System.getProperty("user.home"); //locates address of
user's home file location
        Document document = new Document();
        //the itext library has been imported to enable the following code

        try {
            PdfWriter.getInstance(document, new
FileOutputStream(home+"/Downloads/"+"AtlantisFuel.pdf"));
            //automatically saves the file to the user's downloads folder
            document.open();

            //adding a title to the pdf
            int currentUser = AtlantisFuel.findUser(HomePage.username);
//retrieves username
            Paragraph chapterTitle = new
Paragraph(AtlantisFuel.users.get(currentUser).getFirstname()+"'s Fuel Usage\n"
                    + " ");
            Chapter chapter1 = new Chapter(chapterTitle, 1); /*instantiates new
title, will require one line on the pdf*/
            chapter1.setNumberDepth(0);
            document.add(chapter1); //adding the title to the document

            //6 columns required in this table to match headers of table in
jframe
            PdfPTable table = new PdfPTable(6);
            table.addCell("Day");
            table.addCell("Month");
            table.addCell("Year");
            table.addCell("Type");
            table.addCell("Amount");
            table.addCell("Cost");

            /*loops for number of rows in table, loads all values into separate
strings which will be
            added as cells in the table in the pdf*/
            for(int i = 0; i < jTable1.getRowCount(); i++){
                String d = jTable1.getValueAt(i,1).toString();
                String m = jTable1.getValueAt(i, 2).toString();
                String y = jTable1.getValueAt(i, 3).toString();
                String t = jTable1.getValueAt(i, 4).toString();
                String a = jTable1.getValueAt(i, 5).toString();
                String c = jTable1.getValueAt(i, 6).toString();

                //data added to table in document as strings
                table.addCell(d);
                table.addCell(m);
                table.addCell(y);
```

```java
                table.addCell(t);
                table.addCell(a);
                table.addCell(c);
            }

            document.add(table);

        } catch (FileNotFoundException ex) {
            Logger.getLogger(ViewEntries.class.getName()).log(Level.SEVERE,
null, ex);
        } catch (DocumentException ex) {
            Logger.getLogger(ViewEntries.class.getName()).log(Level.SEVERE,
null, ex);
        }
        document.close();

        AtlantisFuel.serialiseUser();

    }


    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jScrollPane1 = new javax.swing.JScrollPane();
        jTable1 = new javax.swing.JTable();
        jComboBox1 = new javax.swing.JComboBox<>();
        jButton2 = new javax.swing.JButton();
        jPanel2 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setBackground(new java.awt.Color(12, 12, 20));

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jLabel1.setBackground(new java.awt.Color(239, 240, 245));
        jLabel1.setFont(new java.awt.Font("Franklin Gothic Book", 1, 40)); //
NOI18N
        jLabel1.setForeground(new java.awt.Color(8, 54, 193));
        jLabel1.setText("Hello");

        jTable1.setFont(new java.awt.Font("Franklin Gothic Book", 0, 14)); //
NOI18N
        jTable1.setForeground(new java.awt.Color(8, 54, 193));
        jTable1.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {
```

```java
        },
        new String [] {
            "ID Number", "Day", "Month", "Year", "Type", "Amount", "Cost"
        }
    ));
    jTable1.addContainerListener(new java.awt.event.ContainerAdapter() {
        public void componentAdded(java.awt.event.ContainerEvent evt) {
            jTable1ComponentAdded(evt);
        }
    });
    jTable1.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            jTable1MouseClicked(evt);
        }
    });
    jScrollPane1.setViewportView(jTable1);

    jComboBox1.setForeground(new java.awt.Color(8, 54, 193));
    jComboBox1.setModel(new javax.swing.DefaultComboBoxModel<>(new String[]
{ "Oldest First", "Newest First", "Cost (Low - High)", "Cost (High - Low)" }));
    jComboBox1.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            jComboBox1MouseClicked(evt);
        }
    });
    jComboBox1.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jComboBox1ActionPerformed(evt);
        }
    });

    jButton2.setBackground(new java.awt.Color(239, 188, 79));
    jButton2.setFont(new java.awt.Font("Franklin Gothic Book", 1, 18)); //
NOI18N
    jButton2.setForeground(new java.awt.Color(8, 54, 193));
    jButton2.setText("DOWNLOAD DATA");
    jButton2.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton2ActionPerformed(evt);
        }
    });

    jPanel2.setBackground(new java.awt.Color(8, 54, 193));
    jPanel2.setPreferredSize(new java.awt.Dimension(150, 800));

    jButton4.setBackground(new java.awt.Color(239, 188, 79));
    jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jButton4.setText("Add A Fuel Entry");
    jButton4.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton4ActionPerformed(evt);
        }
    });
```

```java
        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });

        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addGap(43, 43, 43)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```java
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(48, 48, 48)
                        .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(139, 139, 139))
                );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(86, 86, 86)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TR
AILING)
                    .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, 143,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
                        .addComponent(jScrollPane1,
javax.swing.GroupLayout.PREFERRED_SIZE, 845,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 580,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addComponent(jButton2))
                .addGap(0, 97, Short.MAX_VALUE))
                );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, 841,
Short.MAX_VALUE)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addContainerGap(70, Short.MAX_VALUE)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE,
69, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
```

```java
            .addComponent(jScrollPane1,
javax.swing.GroupLayout.PREFERRED_SIZE, 544,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
                .addComponent(jButton2)
                .addGap(61, 61, 61))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jComboBox1MouseClicked(java.awt.event.MouseEvent evt) {


    }

    /*the following ActionEvent will sort the table as requested by the user
once
    an option is clicked from the drop down menu*/
    private void jComboBox1ActionPerformed(java.awt.event.ActionEvent evt) {

        try { /*try-catch statement avoids program crashing if errors occur in
the midst
            of deserializing the arraylist.*/
            AtlantisFuel.deserialiseFuel(); /*gets the method from main class*/
        } catch (IOException ex) {
            Logger.getLogger(ViewEntries.class.getName()).log(Level.SEVERE,
null, ex);
        }

        if(jComboBox1.getSelectedItem().equals("Newest First")){
            Collections.sort(AtlantisFuel.fuelConsumption,
Comparator.comparing(FuelConsumption::getDateEnterred));
            Collections.reverse(AtlantisFuel.fuelConsumption);
        } else if(jComboBox1.getSelectedItem().equals("Oldest First")){
            Collections.sort(AtlantisFuel.fuelConsumption,
Comparator.comparing(FuelConsumption::getDateEnterred));
```

```java
        } else if(jComboBox1.getSelectedItem().equals("Cost (Low - High)")){
            Collections.sort(AtlantisFuel.fuelConsumption,
Comparator.comparing(FuelConsumption::getCost));
        } else if(jComboBox1.getSelectedItem().equals("Cost (High - Low)")){
            Collections.sort(AtlantisFuel.fuelConsumption,
Comparator.comparing(FuelConsumption::getCost));
            Collections.reverse(AtlantisFuel.fuelConsumption);
        }
        AtlantisFuel.serialiseFuel(); /*serialize arraylist to save updates
made*/
        AtlantisFuel.addRowToJTable(); /*re-creates the table of entries using
the updates ArrayList*/

    }

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

        /*when user clicks DOWNLOAD DATA this code runs. The following method
        runs which formats and downloads the PDF*/
        downloadPDF();
    }

    private void jTable1MouseClicked(java.awt.event.MouseEvent evt) {

        //code for when an entry is clicked on to edit

        JTable table = (JTable)evt.getSource();
        int row = table.getSelectedRow();
        int column = table.getSelectedColumn();
        String id = (String) jTable1.getValueAt(row,0);
        fuelID = Long.valueOf(id);
        //fuelID = (long) jTable1.getValueAt(row, 0);
        //ObjectType o = (ObjectType)target.getValueAt(row, column));

        new EditEntry(fuelID).setVisible(true);
        this.setVisible(false);

    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {
```

```java
        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    private void jTable1ComponentAdded(java.awt.event.ContainerEvent evt) {

        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ViewEntries.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ViewEntries.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ViewEntries.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ViewEntries.class.getName()).log(java.util.lo
gging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ViewEntries().setVisible(true);
            }
```

```java
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton2;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    public static javax.swing.JComboBox<String> jComboBox1;
    public static javax.swing.JLabel jLabel1;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JScrollPane jScrollPane1;
    public static javax.swing.JTable jTable1;
    // End of variables declaration
}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package View;
import Controller.*;
import Model.*;
import static View.HomePage.username;
import java.awt.BorderLayout;
import java.awt.Color;
import java.io.IOException;
import java.util.ArrayList;
import java.util.Collections;
import java.util.Comparator;
import java.util.logging.Level;
import java.util.logging.Logger;
import org.jfree.chart.ChartFactory;
import org.jfree.chart.ChartPanel;
import org.jfree.chart.JFreeChart;
import org.jfree.chart.plot.CategoryPlot;
import org.jfree.chart.plot.PlotOrientation;
import org.jfree.data.category.DefaultCategoryDataset;


public final class ViewFuelCost extends javax.swing.JFrame {

    public static ArrayList<CostsPerYear> costsPerYear = new ArrayList<>();
    public static boolean found = false;

    public ViewFuelCost() {
        initComponents();
        //found = false;
        costsPerYear.clear();
        //arraylist cleared so data is not duplicated
        try {
            AtlantisFuel.deserialiseFuel();
```

```
        } catch (IOException ex) {
            Logger.getLogger(ViewFuelCost.class.getName()).log(Level.SEVERE,
null, ex);
        }

        Collections.sort(AtlantisFuel.fuelConsumption,
Comparator.comparing(FuelConsumption::getDateEnterred));

        AtlantisFuel.serialiseFuel();
        //fuelConsumption arraylist sorted by chronological order
        findCostsPerYear();
    }

    /*creating a code to find cost per year
    an arraylist will be created to store the number of years and costs
associated
    */

    public void findCostsPerYear(){

        try {
            AtlantisFuel.deserialiseFuel();
        } catch (IOException ex) {
            Logger.getLogger(ViewFuelCost.class.getName()).log(Level.SEVERE,
null, ex);
        }

        int k = 0;
        while(k < AtlantisFuel.fuelConsumption.size()){

if(AtlantisFuel.fuelConsumption.get(k).getUsername().equals(HomePage.username)){
                int j = 0;
                //checks if year is already in
                while(found == false && j < costsPerYear.size()){
                    //if the year is in the costsperyear arraylist, it
increments the cost amount

if(costsPerYear.get(j).getYear().equals((String.valueOf(AtlantisFuel.fuelConsump
tion.get(k).getDateEnterred().getYear() + 1900)))){
                        float currentCost = costsPerYear.get(j).getCost();
                        costsPerYear.get(j).setCost(currentCost +
AtlantisFuel.fuelConsumption.get(k).getCost()); /*increments cost*/
                        found = true;
                    }
                    else{
                        j = j +1;
                    }
                }

                //if the year is not in the costsperyear arraylist it creates a
new index with year and cost
                if(found == false){
                    costsPerYear.add(new
CostsPerYear((String.valueOf((AtlantisFuel.fuelConsumption.get(k).getDateEnterre
```

```
d()).getYear() + 1900)),
                            AtlantisFuel.fuelConsumption.get(k).getCost()));
                }
            }
            k = k + 1;
        }

        AtlantisFuel.serialiseFuel();


       DefaultCategoryDataset ds = new DefaultCategoryDataset();
            ds.clear();
         for(int g = 0; g < costsPerYear.size(); g++){

            ds.setValue(/*(int)*/costsPerYear.get(g).getCost(), "Litres",
costsPerYear.get(g).getYear());
        }

        JFreeChart chart = ChartFactory.createBarChart("Amount Spent Annually",
"Year", "Amount of Money", ds, PlotOrientation.VERTICAL, true, true, false);

        CategoryPlot plot = chart.getCategoryPlot();
        plot.setRangeGridlinePaint(Color.black);
        ChartPanel panel = new ChartPanel(chart);
        jPanel10.removeAll();
        jPanel10/*2*/.add(panel);
        jPanel10.setLayout(new BorderLayout());
        jPanel10.add(panel, BorderLayout.NORTH);
        jPanel10.updateUI();
    }


    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jPanel10 = new javax.swing.JPanel();
        jPanel11 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));
```

```java
jPanel10.setBorder(javax.swing.BorderFactory.createTitledBorder("Usage"));
        jPanel10.setForeground(new java.awt.Color(0, 63, 197));
        jPanel10.setFont(new java.awt.Font("Franklin Gothic Book", 0, 14)); //
NOI18N

        javax.swing.GroupLayout jPanel10Layout = new
javax.swing.GroupLayout(jPanel10);
        jPanel10.setLayout(jPanel10Layout);
        jPanel10Layout.setHorizontalGroup(

jPanel10Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 946, Short.MAX_VALUE)
        );
        jPanel10Layout.setVerticalGroup(

jPanel10Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 563, Short.MAX_VALUE)
        );

        jPanel11.setBackground(new java.awt.Color(8, 54, 193));
        jPanel11.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton4.setBackground(new java.awt.Color(239, 188, 79));
        jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton4.setText("Add A Fuel Entry");
        jButton4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton4ActionPerformed(evt);
            }
        });

        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });

        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel11Layout = new
javax.swing.GroupLayout(jPanel11);
        jPanel11.setLayout(jPanel11Layout);
        jPanel11Layout.setHorizontalGroup(
```

```java
jPanel11Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel11Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel11Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.L
EADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel11Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel11Layout.setVerticalGroup(

jPanel11Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel11Layout.createSequentialGroup()
                .addGap(43, 43, 43)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 163,
Short.MAX_VALUE)
                .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addComponent(jPanel11, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 56,
Short.MAX_VALUE)
```

```java
                    .addComponent(jPanel10, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(36, 36, 36))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel11, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jPanel10, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(91, 91, 91))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {
```

```java
        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ViewFuelCost.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ViewFuelCost.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ViewFuelCost.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ViewFuelCost.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ViewFuelCost().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton10;
```

```java
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    private javax.swing.JPanel jPanel1;
    public static javax.swing.JPanel jPanel10;
    private javax.swing.JPanel jPanel11;
    // End of variables declaration
}

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package View;
import Model.*;
import Controller.*;
import static View.HomePage.username;
import java.awt.BorderLayout;
import java.text.SimpleDateFormat;
import java.util.ArrayList;
import java.util.Date;
import org.jfree.chart.ChartFactory;
import org.jfree.chart.ChartFrame;
import org.jfree.chart.JFreeChart;
import org.jfree.data.general.DefaultPieDataset;
import java.text.DecimalFormat;
import java.util.Locale;
import javax.swing.SwingUtilities;
import javax.swing.WindowConstants;
import org.jfree.chart.ChartFactory;
import org.jfree.chart.ChartPanel;
import org.jfree.chart.JFreeChart;
import org.jfree.chart.labels.PieSectionLabelGenerator;
import org.jfree.chart.labels.StandardPieSectionLabelGenerator;
import org.jfree.chart.plot.PiePlot;
import org.jfree.chart.plot.PiePlot3D;
import org.jfree.data.general.DefaultPieDataset;
import org.jfree.data.general.PieDataset;

/*THIS CLASS ONLY DEALS WITH THE PIE CHART FOR THE TYPES OF FUEL!!!*/

public class ViewFuelTypes extends javax.swing.JFrame {

    public static int Diesel;
    public static int E10;
    public static int Unleaded;
    public static int Leaded;
    public static int Other;
    public static int Total = 1;
    //public static ArrayList<String> type = new ArrayList<>();
    public static String month1;
    //public static DefaultPieDataset dataset = new DefaultPieDataset();

    public ViewFuelTypes(String username) {
```

```java
        initComponents();
        //AtlantisFuel.chartThisMonth();

        createDataSet();
//
//          JFreeChart chart = ChartFactory.createPieChart("Fuel by Type",
dataset, true, true, true);
//          PiePlot p = (PiePlot) chart.getPlot();
//          System.out.println("pLot created");
//          ChartPanel panel = new ChartPanel(chart);
//          System.out.println("panel created");
//          //setContentPane(panel);
//          jPanel3.removeAll();
//          jPanel3.add(panel);
//          jPanel3.setLayout(new BorderLayout());
//          jPanel3.add(panel, BorderLayout.NORTH);
//          jPanel3.updateUI();

    }

    private void createDataSet(){
                //looping to find the values for the data set
        for(int k = 0; k < AtlantisFuel.fuelConsumption.size();k++){
            System.out.println("LOOP STARTED");
            //if the fuel entry corresponds to the current user

if(AtlantisFuel.fuelConsumption.get(k).getUsername().equals(HomePage.username)){
                Total = Total +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount();

if(AtlantisFuel.fuelConsumption.get(k).getFuelType().equals("E10")){
                    E10 = E10 +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount();
                    System.out.println("value 1");
                }
                else
if(AtlantisFuel.fuelConsumption.get(k).getFuelType().equals("Diesel")){
                    Diesel = Diesel +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount();
                    System.out.println("value 2");
                }
                else
if(AtlantisFuel.fuelConsumption.get(k).getFuelType().equals("Unleaded")){
                    Unleaded = Unleaded +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount();
                    System.out.println("value 3");
                }
                else
if(AtlantisFuel.fuelConsumption.get(k).getFuelType().equals("Leaded")){
                    Leaded = Leaded +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount();
                    System.out.println("value 4");
                }
                else{
```

```java
                    Other = Other +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount();
                    System.out.println("value 5");
                }
            }
        }

        DefaultPieDataset dataset = new DefaultPieDataset();
        System.out.println("made data set");
        dataset.setValue("E10", new Integer((E10/Total)*100));
        dataset.setValue("Diesel", new Integer((Diesel/Total)*100));
        dataset.setValue("Unleaded", new Integer((Unleaded/Total)*100));
        dataset.setValue("Leaded", new Integer((Leaded/Total)*100));
        dataset.setValue("Other", new Integer((Other/Total)*100));
        System.out.println("added data");
    }




    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jComboBox1 = new javax.swing.JComboBox<>();
        jPanel1 = new javax.swing.JPanel();
        jPanel3 = new javax.swing.JPanel();
        jPanel4 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        jComboBox1.setModel(new javax.swing.DefaultComboBoxModel<>(new String[]
{ "this month", "this year", "all time" }));
        jComboBox1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox1ActionPerformed(evt);
            }
        });

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        javax.swing.GroupLayout jPanel3Layout = new
javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 950, Short.MAX_VALUE)
        );
        jPanel3Layout.setVerticalGroup(
```

```java
jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGap(0, 587, Short.MAX_VALUE)
    );

    jPanel4.setBackground(new java.awt.Color(8, 54, 193));
    jPanel4.setPreferredSize(new java.awt.Dimension(150, 800));

    jButton4.setBackground(new java.awt.Color(239, 188, 79));
    jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jButton4.setText("Add A Fuel Entry");
    jButton4.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton4ActionPerformed(evt);
        }
    });

    jButton5.setBackground(new java.awt.Color(239, 188, 79));
    jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jButton5.setText("Add Your Vehicles");
    jButton5.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton5ActionPerformed(evt);
        }
    });

    jButton10.setBackground(new java.awt.Color(8, 54, 193));
    jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
    jButton10.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton10ActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel4Layout = new
javax.swing.GroupLayout(jPanel4);
    jPanel4.setLayout(jPanel4Layout);
    jPanel4Layout.setHorizontalGroup(

jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(35, 35, 35)

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
```

```
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel4Layout.createSequentialGroup()
                    .addContainerGap(27, Short.MAX_VALUE)
                    .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(25, 25, 25))
        );
        jPanel4Layout.setVerticalGroup(

jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel4Layout.createSequentialGroup()
                    .addGap(62, 62, 62)
                    .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(48, 48, 48)
                    .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(139, 139, 139))
        );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                    .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(48, 48, 48)
                    .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addContainerGap(50, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE, 817,
Short.MAX_VALUE)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel1Layout.createSequentialGroup()
                    .addContainerGap(127, Short.MAX_VALUE)
                    .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(103, 103, 103))
        );

        javax.swing.GroupLayout layout = new
```

```java
        javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jComboBox1ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
```

```java
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ViewFuelTypes.class.getName()).log(java.util.
logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ViewFuelTypes.class.getName()).log(java.util.
logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ViewFuelTypes.class.getName()).log(java.util.
logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ViewFuelTypes.class.getName()).log(java.util.
logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ViewFuelTypes(username).setVisible(true);
                //chartThisMonth();

            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    public static javax.swing.JComboBox<String> jComboBox1;
    private javax.swing.JPanel jPanel1;
    public static javax.swing.JPanel jPanel3;
    private javax.swing.JPanel jPanel4;
    // End of variables declaration
}

package View;
import Controller.*;
```

```java
import Model.*;
import static View.HomePage.username;
import java.awt.BorderLayout;
import org.jfree.data.category.DefaultCategoryDataset;
import org.jfree.chart.plot.CategoryPlot;
import org.jfree.chart.ChartFactory;
import org.jfree.chart.JFreeChart;
import org.jfree.chart.plot.PlotOrientation;
import java.awt.Color;
import java.io.IOException;
import java.util.ArrayList;
import java.util.logging.Level;
import java.util.logging.Logger;
import org.jfree.chart.ChartPanel;

public class ViewTimelyUsage extends javax.swing.JFrame {

    public static ArrayList<Amounts> amounts = new ArrayList<>();
    /*amounts arraylist encapsulated in Amounts class in model.
    this arraylist will store small versions of the user's fuel objects
    i.e. only the year of the fuel bought (year) and the amount of fuel
(amount).
    */

//      int k = 0;
//      while(k < AtlantisFuel.fuelConsumption.size()){
//      k = k + 1;


    public static boolean found = false;


    public ViewTimelyUsage() {
        initComponents();
        found = false;
        amounts.clear();
        findYears();
    }

    /*creates an arraylist which contains the years and respective amount of
fuel*/
    public void findYears(){
        try {
            AtlantisFuel.deserialiseFuel();
            /*fuelConsumption arraylist must be deserialized to access its
data*/
        } catch (IOException ex) {
            Logger.getLogger(ViewTimelyUsage.class.getName()).log(Level.SEVERE,
null, ex);
        }

        for(int k = 0; k < AtlantisFuel.fuelConsumption.size(); k++){

if(AtlantisFuel.fuelConsumption.get(k).getUsername().equals(HomePage.username)){
```

```
                /*if the entry currently being looped through has the same username
as
                the logged in user then it's data must be stored to add to the bar
chart*/
                    int j = 0;
                    while(found == false && j < amounts.size()){
                    /*this method loops through the amounts arraylist to find out
whether the
                    year has already been added to the arraylist and the amount
simply needs to be incremented
                    or whether there are no previous entries for this year and thus
it needs to be added to a
                    new index in the amounts arraylist*/
                        if(amounts.get(j).getYear().equals((String.valueOf(

AtlantisFuel.fuelConsumption.get(k).getDateEnterred().getYear() + 1900)))){
                        /*this if statement checks the aforementioned condition for
a year already being in the
                        amounts arraylist*/
                            int currentAmount = amounts.get(j).getAmount();/*the
current fuel amount is stored*/
                            amounts.get(j).setAmount(currentAmount +
AtlantisFuel.fuelConsumption.get(k).getFuelAmount());
                            /*the amount is updated as the previously stored amount
+ the new amount from the current entry*/
                            found = true;
                        }
                        else{
                            j = j + 1;
                        }
                    }

                //if the year isn't already in amounts, the year and amount are
added to the arraylist
                    if(found == false){
                        amounts.add(new
Amounts((String.valueOf((AtlantisFuel.fuelConsumption.get(k).getDateEnterred().
getYear() + 1900)),
                            AtlantisFuel.fuelConsumption.get(k).getFuelAmount()));
                    }
                }
            }

        AtlantisFuel.serialiseFuel();

        DefaultCategoryDataset ds = new DefaultCategoryDataset(); /*a new data
set is created*/
            ds.clear(); /*removes data that may be remaining from previous
instances of this method*/
        for(int g = 0; g < amounts.size(); g++){
            /*this loop will loop through all the indices in the amounts
arraylist,
            which were sorted above to add them to the newly instantiated data
set*/
```

```
            ds.setValue(amounts.get(g).getAmount(), "Litres",
amounts.get(g).getYear());
            /*accessors must be used since amounts is encapsulated to secure the
data*/
        }
        /*instantiating chart - assigning title, axis labels, orientation of the
bars*/
        JFreeChart chart = ChartFactory.createBarChart("Usage across the Years",
"Year", "Litres", ds,

PlotOrientation.VERTICAL, true, true, false);
        CategoryPlot plot = chart.getCategoryPlot();
        plot.setRangeGridlinePaint(Color.black);
        ChartPanel panel = new ChartPanel(chart); //adds the chart to the full
chart panel
        jPanel1.removeAll(); //removes any previous bar chart instances from
this method
        jPanel1.add(panel); //adds the full chart panel to the panel of the
jFrame
        jPanel1.setLayout(new BorderLayout());
        jPanel1.add(panel, BorderLayout.NORTH);
        jPanel1.updateUI();
    }


    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel3 = new javax.swing.JPanel();
        jPanel1 = new javax.swing.JPanel();
        jPanel4 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel3.setBackground(new java.awt.Color(255, 255, 255));

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

jPanel1.setBorder(javax.swing.BorderFactory.createTitledBorder("Usage"));

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 798, Short.MAX_VALUE)
        );
        jPanel1Layout.setVerticalGroup(
```

```java
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGap(0, 504, Short.MAX_VALUE)
    );

    jPanel4.setBackground(new java.awt.Color(8, 54, 193));
    jPanel4.setPreferredSize(new java.awt.Dimension(150, 800));

    jButton4.setBackground(new java.awt.Color(239, 188, 79));
    jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jButton4.setText("Add A Fuel Entry");
    jButton4.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton4ActionPerformed(evt);
        }
    });

    jButton5.setBackground(new java.awt.Color(239, 188, 79));
    jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jButton5.setText("Add Your Vehicles");
    jButton5.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton5ActionPerformed(evt);
        }
    });

    jButton10.setBackground(new java.awt.Color(8, 54, 193));
    jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
    jButton10.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton10ActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel4Layout = new
javax.swing.GroupLayout(jPanel4);
    jPanel4.setLayout(jPanel4Layout);
    jPanel4Layout.setHorizontalGroup(

jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(35, 35, 35)

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addContainerGap(38, Short.MAX_VALUE))
```

```
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel4Layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(25, 25, 25))
        );
        jPanel4Layout.setVerticalGroup(

jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel4Layout.createSequentialGroup()
                .addGap(62, 62, 62)
                .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(48, 48, 48)
                .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(139, 139, 139))
        );

        javax.swing.GroupLayout jPanel3Layout = new
javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel3Layout.createSequentialGroup()
                .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 97,
Short.MAX_VALUE)
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(85, 85, 85))
        );
        jPanel3Layout.setVerticalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE, 839,
Short.MAX_VALUE)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel3Layout.createSequentialGroup()
                .addContainerGap(163, Short.MAX_VALUE)
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(150, 150, 150))
```

```java
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 11, Short.MAX_VALUE))
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
```

```java
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ViewTimelyUsage.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ViewTimelyUsage.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ViewTimelyUsage.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ViewTimelyUsage.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ViewTimelyUsage().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    public static javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel3;
    private javax.swing.JPanel jPanel4;
    // End of variables declaration
}

package View;
import Controller.AtlantisFuel;
import static View.HomePage.username;
import static View.ViewVehicles.nameOfVehicle;
//import static View.ViewVehicles.panel;
import java.awt.Color;
import java.awt.Dimension;
import java.awt.GridLayout;
```

```java
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.io.IOException;
import java.util.ArrayList;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JButton;

public class ViewVehicles extends javax.swing.JFrame {

    public static String nameOfVehicle;

    public ViewVehicles() {
        initComponents();

        jPanel3.removeAll();
        jPanel3.setLayout(new GridLayout(3,5));

        try {
            AtlantisFuel.deserialiseVehicles();
        } catch (IOException ex) {
            Logger.getLogger(ViewVehicles.class.getName()).log(Level.SEVERE,
null, ex);
        }

        for(int count = 0; count < AtlantisFuel.vehicles.size(); count++){
            if(AtlantisFuel.vehicles.get(count).getUsername().equals(username)){
                //if the vehicle belongs to the user
                nameOfVehicle =
AtlantisFuel.vehicles.get(count).getNameOfVehicle();
                JButton vehiclebutton = new
JButton(AtlantisFuel.vehicles.get(count).getNameOfVehicle());
                vehiclebutton.setPreferredSize(new Dimension(200,100));
                vehiclebutton.setBackground(Color.white);
                vehiclebutton.setForeground(Color.orange);
                vehiclebutton.addActionListener(new ActionListener(){
                    public void actionPerformed(ActionEvent e){
                        new EditVehicle(username,
vehiclebutton.getText()).setVisible(true);
                        new ViewVehicles().setVisible(false);
                    }
                });
                jPanel3.add(vehiclebutton);
            }
        }
    }


    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">

    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
```

```java
        jPanel2 = new javax.swing.JPanel();
        jButton4 = new javax.swing.JButton();
        jButton5 = new javax.swing.JButton();
        jButton10 = new javax.swing.JButton();
        jPanel3 = new javax.swing.JPanel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(255, 255, 255));

        jPanel2.setBackground(new java.awt.Color(8, 54, 193));
        jPanel2.setPreferredSize(new java.awt.Dimension(150, 800));

        jButton4.setBackground(new java.awt.Color(239, 188, 79));
        jButton4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton4.setText("Add A Fuel Entry");
        jButton4.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton4ActionPerformed(evt);
            }
        });

        jButton5.setBackground(new java.awt.Color(239, 188, 79));
        jButton5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jButton5.setText("Add Your Vehicles");
        jButton5.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton5ActionPerformed(evt);
            }
        });

        jButton10.setBackground(new java.awt.Color(8, 54, 193));
        jButton10.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/View/atlantis_fuel.png"))); //
NOI18N
        jButton10.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton10ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new
javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
                    .addComponent(jButton4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
```

```java
Short.MAX_VALUE)
                    .addComponent(jButton5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                    .addContainerGap(27, Short.MAX_VALUE)
                    .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
198, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(25, 25, 25))
        );
        jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                    .addGap(43, 43, 43)
                    .addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE,
199, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton5, javax.swing.GroupLayout.PREFERRED_SIZE,
107, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(48, 48, 48)
                    .addComponent(jButton4, javax.swing.GroupLayout.PREFERRED_SIZE,
101, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(139, 139, 139))
        );

        jPanel3.setBackground(new java.awt.Color(255, 255, 255));

        javax.swing.GroupLayout jPanel3Layout = new
javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 661, Short.MAX_VALUE)
        );
        jPanel3Layout.setVerticalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 511, Short.MAX_VALUE)
        );

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```java
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
250, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(163, 163, 163)
                    .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(0, 199, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, 808,
Short.MAX_VALUE)
            .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(145, 145, 145)
                    .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addContainerGap(152, Short.MAX_VALUE))
        );

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

        new AddEntry(username).setVisible(true);
        this.setVisible(false);
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new AddVehicle(username).setVisible(true);
        this.setVisible(false);
    }
```

```java
    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {

        // TODO add your handling code here:
        new HomePage(username).setVisible(true);
        this.setVisible(false);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ViewVehicles.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ViewVehicles.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ViewVehicles.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ViewVehicles.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ViewVehicles().setVisible(true);
            }
        });
    }
```

```java
    // Variables declaration - do not modify
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton4;
    private javax.swing.JButton jButton5;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JPanel jPanel3;
    // End of variables declaration
}
```