KATARINA CEHOVSKI
ASSIGNMENT A TASK B

PART 1: TEST PLAN AND TEST LOG

Type of Test:
Validation of Update button.
Expected Result:
When you click the Update button should assign any changes of a record to the table.
Actual Result:
It passes the test.

Type of Test:
Validation of Add button.
Expected Result:
When you click the Add button should add a new row/record.
Actual Result:
It passes the test.

Type of Test:
Validation of Delete button.
Expected Result:
When you click the Delete button should delete the record.
Actual Result:
It passes the test.

Type of Test:
Validation of Cancel button.
Expected Result:
When you click the Cancel button should disregard any changes made to a record.
Actual Result:
It passes the test.

Type of Test:
Validation of Search button.
Expected Result:
When you click the Search button should open the form frmSearch.
Actual Result:
It passes the test.

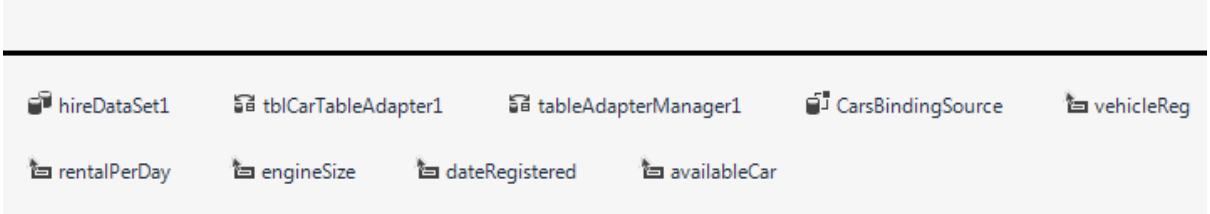
Type of Test:
Validation of Run button.
Expected Result:
When you click the Run button should execute query that match criteria entered using combo boxes

and the value in the data entry text box. All fields from table tblCar for all the records which match the criteria should be displayed in the data grid. The search should be run only if data exists in all three controls. A criteria string that is not matched by any record should return nothing.
Error messages should show when:
a) there is no match,
b) customer didn't enter value in text box,
c) there is SQL Error

Actual Result:

It passes the test.

PART 2:



hireDataSet1

Datasets are objects that contain data tables where you can temporarily store the data for use in your application.

tblCarTableAdapter1

TableAdapters provide communication between your application and a database.

tableAdapterManager1

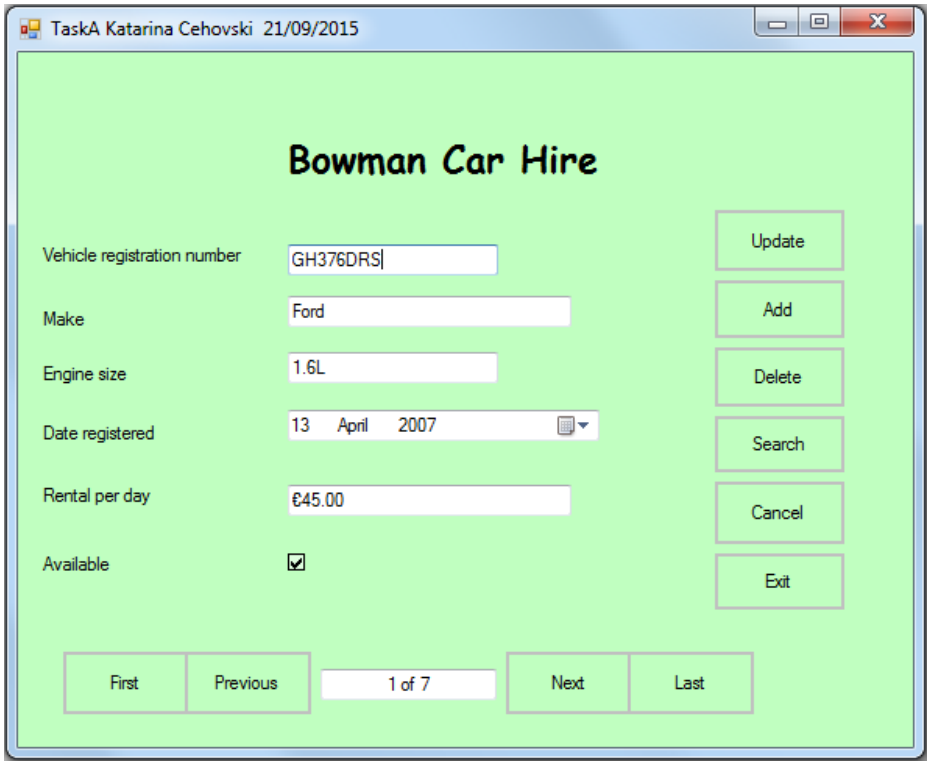
The TableAdapterManager is a component that provides the functionality to save data in related data tables.

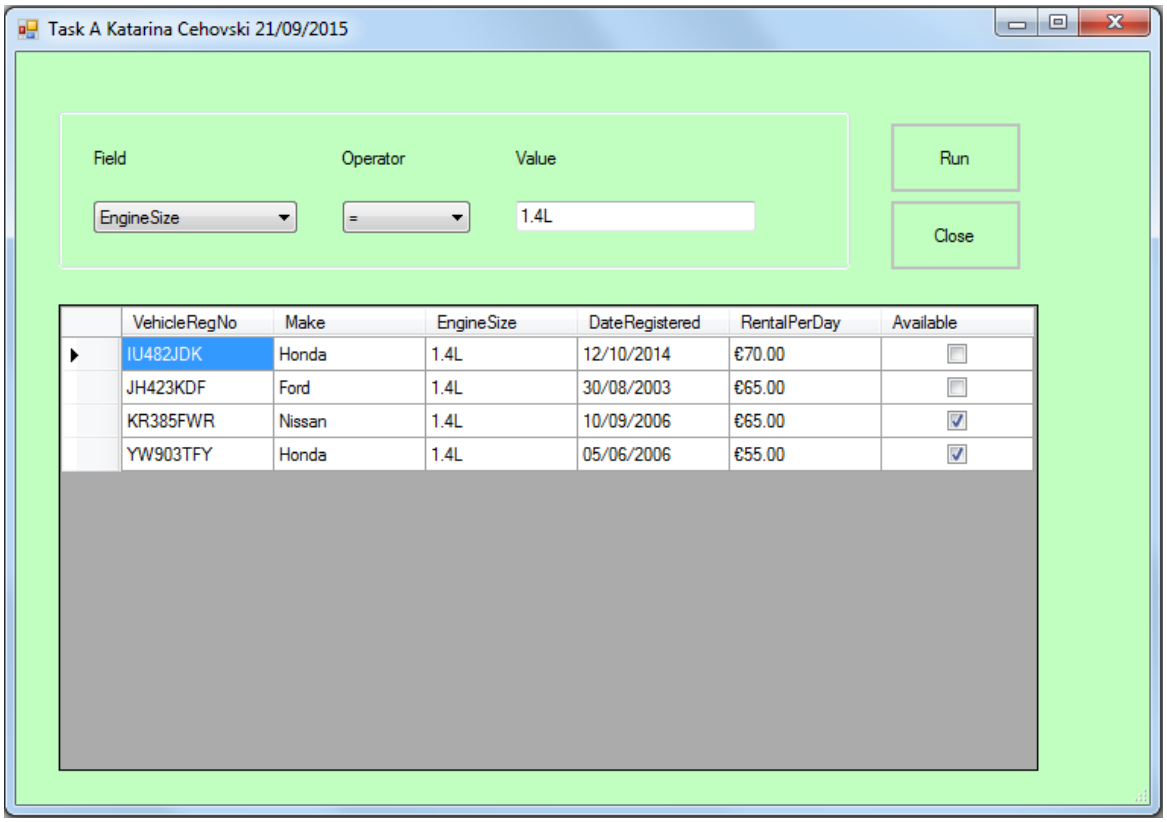
CarsBindingSource

It supports the binding of control elements in a form, and can be seen as a link between a *data source* and a control element.

Purpose of the software is to allow clients to access an external database. Client can:
- display individual records
- add a new record
- delete a record
- edit a record
- update a record
- cancel amendments for a record
- search records

PART 3:


TaskA Katarina Cehovski 21/09/2015
Bowman Car Hire
Vehicle registration number
GH376DRS
Make
Ford
Engine size
1.6L
Date registered
13 April 2007
Rental per day
€45.00
Available
Update
Add
Delete
Search
Cancel
Exit
First
Previous
1 of 7
Next
Last


Task A Katarina Cehovski 21/09/2015
Field
Operator
Value
EngineSize
=
1.4L
Run
Close
VehicleRegNo
Make
EngineSize
DateRegistered
RentalPerDay
Available
IU482JDK
Honda
1.4L
12/10/2014
€70.00
JH423KDF
Ford
1.4L
30/08/2003
€65.00
KR385FWR
Nissan
1.4L
10/09/2006
€65.00
YW903TFY
Honda
1.4L
05/06/2006
€55.00

Code for frmCars

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using System.Globalization;

namespace CarsDatabase
{
    public partial class frmCars : Form
    {
        public frmCars()
        {
            InitializeComponent();
        }


        private void frmCars_Load(object sender, EventArgs e)
        {
            //When form frmCars is loaded the dataset is loaded automatically and the
data for the first record is displayed in the controls.

            tblCarTableAdapter1.Fill(hireDataSet1.tblCar);
            updatePosition();
        }

        private void updateButton_Click(object sender, EventArgs e)
        {

            try
            {
                //Checking that text box txtVehicleReg is not empty.
                //Updating all changes.

                if (txtVehicleReg.Text != "")
                {
                    this.Validate();
                    this.CarsBindingSource.EndEdit();
                    this.tblCarTableAdapter1.Update(this.hireDataSet1.tblCar);
                    MessageBox.Show("Update successful");
                }

                //If text box txtVehicleReg is empty this message appear on screen.

                else
                {
                    MessageBox.Show("Vehicle Registration Number can't be empty");
                }
            }

            //If there is already row with the same value for column VehicleRegNo this
message appear on screen.
            //Column VehicleRegNo is a primary key and it must be unique.

            catch (ConstraintException)
```

```
            {
                MessageBox.Show("That Vehicle Registration Number already exists");
            }
        }

        private void NextButton_Click(object sender, EventArgs e)
        {
            //Populates all text boxes, check box and data time picker with next
record and also updates text box txtOrder to current position.

            CarsBindingSource.MoveNext();
            updatePosition();
        }

        private void PreviousButton_Click(object sender, EventArgs e)
        {
            //Populates all text boxes, check box and data time picker with previous
record and also updates text box txtOrder to current position.

            CarsBindingSource.MovePrevious();
            updatePosition();
        }

        private void firstButton_Click(object sender, EventArgs e)
        {
            //Populates all text boxes, check box and data time picker with first
record and also updates text box txtOrder to current position.

            CarsBindingSource.MoveFirst();
            updatePosition();
        }

        private void lastButton_Click(object sender, EventArgs e)
        {
            //Populates all text boxes, check box and data time picker with last
record and also updates text box txtOrder to current position.

            CarsBindingSource.MoveLast();
            updatePosition();
        }

        private void updatePosition()
        {
            //Populates text box txtOrder with current and total record number.

            txtOrder.Text = CarsBindingSource.Position +1 + " of " +
CarsBindingSource.Count;
        }

        private void exitButton_Click(object sender, EventArgs e)
        {
            //Closes the program.

            this.Close();
        }

        private void searchButton_Click(object sender, EventArgs e)
        {
            //Opens a form frmSearch.

            frmSearch searchForm = new frmSearch();
            searchForm.ShowDialog();
```

```
        }

        private void addButton_Click(object sender, EventArgs e)
        {
            try
            {
                //Adding a new row.
                //Populating column VehicleRegNo because it can't be empty, and column
Available with 0 (False) because it's by default set to True.

                DataRow row = hireDataSet1.tblCar.NewRow();
                row["VehicleRegNo"] = "Regis";
                row["Available "] = 0;
                hireDataSet1.tblCar.Rows.Add(row);

                //Row is added to last place, so this is going to show that record.
                CarsBindingSource.MoveLast();
                updatePosition();
            }

            //If there is already row with the same value for column VehicleRegNo this
message appear on screen.
            //Column VehicleRegNo is a primary key and it must be unique.

            catch (ConstraintException)
            {
                MessageBox.Show("Vehicle Registration Number 'Regis' already exist");
            }
        }

        private void deleteButton_Click(object sender, EventArgs e)
        {
            //Deletes current record and shows next record with updated position.
            //If you are sure you want to delete that record then it's necessary to
click Update button.

            hireDataSet1.tblCar[CarsBindingSource.Position].Delete();
            updatePosition();
        }

        private void cancelButton_Click(object sender, EventArgs e)
        {
            //Cancels all changes.

            hireDataSet1.RejectChanges();
            CarsBindingSource.ResetBindings(false);
            updatePosition();
        }
    }
}
```

Code for frmSearch

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using System.Data.SqlClient;

namespace CarsDatabase
{
    public partial class frmSearch : Form
    {
        public frmSearch()
        {
            InitializeComponent();
        }

        private void frmSearch_Load(object sender, EventArgs e)
        {
            //When form frmSearch is loaded combo boxes cboField and cboOperator are
going to be populated with data.

            cboField.Items.Add("Make");
            cboField.Items.Add("EngineSize");
            cboField.Items.Add("RentalPerDay");
            cboField.Items.Add("Available");
            cboField.SelectedIndex = 0;

            cboOperator.Items.Add("=");
            cboOperator.Items.Add("<");
            cboOperator.Items.Add(">");
            cboOperator.Items.Add("<=");
            cboOperator.Items.Add(">=");
            cboOperator.SelectedIndex = 0;
        }

        private void btnClose_Click(object sender, EventArgs e)
        {
            //Closes the program.

            this.Close();
        }

        private void btnRun_Click(object sender, EventArgs e)
        {
            //Checking that text box txtValue is not empty, making connection to
database and running the query.
            if (txtValue.Text != "")
            {
                try
                {

                    string sql = String.Format("SELECT VehicleRegNo, Make, EngineSize,
DateRegistered, '€' + CAST(RentalPerDay AS varchar) AS RentalPerDay, Available FROM
tblCar WHERE {0} {1} @Third", cboField.SelectedItem, cboOperator.SelectedItem);
```

```
                    SqlConnection connection = new SqlConnection(@"Data
Source=(LocalDB)\v11.0;AttachDbFilename=|DataDirectory|\Hire.mdf;Integrated
Security=True");
                    connection.Open();
                    SqlCommand command = connection.CreateCommand();


                    command.CommandType = CommandType.Text;
                    command.Parameters.AddWithValue("@Third", txtValue.Text);

                    command.CommandText = sql;
                    command.ExecuteNonQuery();

                    //Creates new data table and populates DataGridView with those
records.
                    DataTable table = new DataTable();
                    SqlDataAdapter dataAdapter = new SqlDataAdapter(command);
                    dataAdapter.Fill(table);
                    tblCarDataGridView.DataSource = table;

                    //If there is no match message will appear.

                    if (tblCarDataGridView.Rows.Count == 0)
                    {
                        MessageBox.Show("There is no match!");
                    }
                }

                //If there is a sql error it will show this message.

                catch (SqlException)
                {
                    MessageBox.Show("Error in your query!");
                }

                //If there is any other error it will show this message.

                catch (Exception)
                {
                    MessageBox.Show("Something is wrong, try again");
                }
            }

            //If text box txtValue is empty this message will appear.

            else
            {
                MessageBox.Show("You need to enter value text!");
            }
        }
    }
}
```