Exercise 10

Chapter 12 introduces Entity Framework. In this exercise, you will create an EF data model for a books database. You will then use the data model to in an app to search a table in the database.

1. Read Chapter 12, sections 12.1-12.3, as needed, for an intro to relational databases and the Books database used in this exercise.
2. Read Chapter 12, section 12.4, pages 406 – 407, on *LINQ to Entities* and *ADO .NET Entity Framework*.
3. Create a new Windows Forms app.
4. Download the Books.mdf database provided in Blackboard.
5. Create an Entity Framework data model for the Books database, as described in steps 1-5 on pp. 409-411. Note: The textbook procedure creates the data model in a Class Library, which is not necessary for this exercise.
6. Create an instance of the data context class in the form at the class level. The name of the data context class is the same as the name given to the connection string, shown on p. 411. If you used the default connection string name *BooksEntities*, the name of the data context class is also *BooksEntities*. For example,

   ```
   Dim db As New BooksEntities()
   ```

7. Add a DataGridView control to the form.
8. When the form loads, display a list of Titles in the grid. To achieve this, call ToList on the Titles property of the data context and assign the result to the grid's DataSource property. For example, if the data context is named *db* and the grid is named *dgvTitles*, then the statement is:

   ```
   dgvTitles.DataSource = db.Titles.ToList();
   ```

9. Add a button to filter the titles by copyright year. Use a LINQ Where clause to assign a filtered set of titles to the grid.
10. Provide another button that allows the user to return to the complete set of book titles.