```
1 using System;
 2 using System.Collections.Generic;
 3 using System.Linq;
4 using System.Text;
 5 using System.Threading.Tasks;
 6 using System.Windows;
 7 using System.Windows.Controls;
8 using System.Windows.Data;
9 using System.Windows.Documents;
10 using System.Windows.Input;
11 using System.Windows.Media;
12 using System.Windows.Media.Imaging;
13 using System.Windows.Navigation;
14 using System.Windows.Shapes;
15 using System.Collections;
16 using System.Collections.ObjectModel;
17 using System.Data.Entity;
18
19 namespace Assignment4Part1
20 {
21
       /// <summary>
       /// Interaction logic for MainWindow.xaml
22
23
       /// </summary>
24
       public partial class MainWindow : Window
25
26
           public MainWindow()
27
           {
                InitializeComponent();
29
                DisplayQueryResults();
30
           }
31
32
           public void DisplayQueryResults()
33
                BooksEntities books = new BooksEntities();
35
                var query1 = from title in books.Titles.Include(t => t.Authors)
                             orderby title.Title1
36
37
                             select new { titleText = title.Title1, authors =
                        title.Authors };
                QueryListBox.Items.Add("Titles and Authors:");
38
39
                foreach (var q in query1)
40
41
                    List<Author> aList = q.authors.ToList();
42
                    foreach (Author a in q.authors)
43
                        QueryListBox.Items.Add(String.Format("{0}\t{1} {2}",
44
                        q.titleText, a.FirstName, a.LastName));
45
                    }
46
                QueryListBox.Items.Add("\nAuthors and Titles with authors sorted for >
47
```

```
each title:");
48
                var query2 = from title in books.Titles.Include(a => a.Authors)
49
                             orderby title.Title1
                             select new
50
51
                             {
52
                                 titleText = title.Title1,
53
                                 authorNameText = (from author in title.Authors
                        orderby author.LastName, author.FirstName select new
                                                                                       P
                        { fnText = author.FirstName, lnText = author.LastName })
54
                             };
55
                foreach (var q in query2)
56
                {
57
                    foreach (var a in q.authorNameText)
58
                    {
                        QueryListBox.Items.Add(String.Format("{0}\t{1} {2}",
59
                        q.titleText, a.fnText, a.lnText));
60
                    }
61
                }
62
                QueryListBox.Items.Add("\nTitles grouped by Author:");
63
                var query3 = from title in books.Titles.Include(a => a.Authors)
64
                             orderby title.Title1
65
66
                             select new
67
                             {
68
                                 titleText = title.Title1,
                                 authorNameText = (from author in title.Authors
69
                        orderby author.LastName, author.FirstName select new
                                                                                       P
                        { fnText = author.FirstName, lnText = author.LastName })
70
                             };
71
                foreach (var q in query3)
72
73
                    QueryListBox.Items.Add(q.titleText + ":");
74
                    foreach (var a in q.authorNameText)
75
                        QueryListBox.Items.Add(String.Format(" {0} {1}", a.fnText,
76
                        a.lnText));
77
                    }
78
                }
79
           }
80
       }
81 }
82
```