Form1

70
65
88
100
90

Average Score: 82.6

Number of Scores Above Average: 3

Number of Scores Below Average: 2

Get Scores   Exit

```csharp
namespace lab7_4_CalebFontenot
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        /*
         * The Scores method reads the scores from the
         * TestScores.txt file into the scoresList parameter.
         */
        private void ReadScores(List<int> scoresList)
        {
            try
            {
                // Open the TestScores.txt file.
                StreamReader inputFile = File.OpenText("TestScores.txt");

                // Read the scores into the list.
                while (!inputFile.EndOfStream)
                {
                    scoresList.Add(int.Parse(inputFile.ReadLine()));
                }
                // Close the file.
                inputFile.Close();
            } catch (Exception ex)
            {
                // Display an error message.
                MessageBox.Show(ex.Message);
            }
        }
        /*
         * The DisplayScores method displayes the contents of the
         * scoresList parameter in the ListBox control.
         */
        private void DisplayScores(List<int> scoresList)
        {
            testScoresListBox.Items.Clear();
            foreach (int score in scoresList)
            {
                testScoresListBox.Items.Add(score);
            }
        }

        /*
         * The Average method displayes the contents of the
         * scoresList parameter in the ListBox control.
         */
        private double Average(List<int> scoresList)
        {
            int total = 0;          // Accumulator
            double average;         // To hold the average

            // Calculate the total of the scores.
            foreach (int score in scoresList)
            {
                total += score;
            }

            // Calculate the average of the scores.
            average = (double)total / scoresList.Count;
```

```csharp
        // Return the average.
        return average;
    }

    /*
     * The AboveAverage method returns the number of
     * above average scores in scoresList.
     */
    private int AboveAverage(List<int> scoresList)
    {
        int numAbove = 0;          // Accumulator

        // Get the average score.
        double avg = Average(scoresList);

        // Count the number of above average scores.
        foreach (int score in scoresList)
        {
            if (score > avg)
            {
                numAbove++;
            }
        }

        // Return the number of above average scores.
        return numAbove;
    }

    /*
     * The BelowAverage method returns the number of below average scores in scoresList.
     */
    private int BelowAverage(List<int> scoresList)
    {
        int numBelow = 0;          // Accumulator

        // Get the average score.
        double avg = Average(scoresList);

        // Count the number of below average scores.
        foreach (int score in scoresList)
        {
            if (score < avg)
            {
                numBelow++;
            }
        }

        // Return the number of below average scores.
        return numBelow;
    }

    private void getScoresButton_Click(object sender, EventArgs e)
    {
        double averageScore;        // To hold the average score

        // Create a List to hold the scores.
        List<int> scoresList = new List<int>();

        // Read the scores from the file into the List.
        ReadScores(scoresList);
```

```csharp
            int numAboveAverage = AboveAverage(scoresList);          // Number of above average scores
            int numBelowAverage = BelowAverage(scoresList);           // Number of below average scores

            // Display the scores.
            DisplayScores(scoresList);

            // Display the average score.
            averageScore = Average(scoresList);
            averageTextBox.Text = averageScore.ToString("n1");

            // Display the number of above average scores.
            numAboveAverage = AboveAverage(scoresList);
            aboveAverageTextBox.Text = numAboveAverage.ToString();

            // Display the number of below average scores.
            numBelowAverage = BelowAverage(scoresList);
            belowAverageTextBox.Text = numBelowAverage.ToString();
        }

        private void exitButton_Click(object sender, EventArgs e)
        {
            this.Close();
        }
    }
}
```