

Lab 2-2 Grading = 3%

Objectives

Applied

1. Use Visual Studio to perform any of these operations:
 - Open and close an existing C# project or solution
 - Display the Form Designer for each of the forms in a project
 - Display the Code Editor for each of the forms in a project
 - Use the Solution Explorer to review the files in a project
 - Open, hide, and adjust the windows for a project
 - Build and run a project

Knowledge

1. Describe the main difference between a desktop application and a web application.
2. Name three platforms you can use to develop Windows desktop applications with .NET.
3. Name two platforms you can use to develop web applications with .NET.
4. Name three programming languages that you can use to develop .NET applications.
5. Distinguish between .NET Framework and .NET Core.
6. Describe the two main components of .NET.
7. In general terms, describe the C# compiler, Microsoft Intermediate Language, the assembly, and the Common Language Runtime.
8. Describe the use of each of these windows in the Visual Studio IDE: Form Designer, Code Editor, and Solution Explorer.
9. In general terms, describe how to use Visual Studio to target a version of .NET.

Reference Lectures:

PowerPoint: Ch 10 (review and Practice Ch 11 from book or slides)

Video Lecture Part 4 Multi-Forms and Controls (YouTube Video)

Due Dates: **Thursday, Feb 4 @ 6:00 pm**

Maintain Student Scores

For this project, you'll develop an application that lets the user add students to a list, change the scores for a student in the list, and delete a student from the list. **Prerequisites:** chapters 1-10.

The Student Scores form

Student Scores

Students

Joel Murach|97|91|83
Doug Lowe|99|93|97
Anne Boehm|100|100|100

Add New...
Update...
Delete

Score total: 271
Score count: 3
Average: 90

Exit

Operation

- To display the total, count, and average for a student, the user selects the student from the list box. If the list box is empty, the total, count, and average labels should be cleared.
- To add a new student, the user clicks the Add New button to display the Add New Student dialog box.
- To update an existing student's scores, the user selects the student in the list box and clicks the Update button to display the Update Student Scores dialog box.
- To delete a student, the user selects the student in the list box and clicks the Delete button.

The Add New Student form

Add New Student

Name: Judy Taylor

Score: 99 Add Score

Scores: 97 77 84

Clear Scores

OK Cancel

Operation

- To add a new student, the user enters a student name and, optionally, one or more scores and clicks the OK button.
- To add a score, the user enters a score and clicks the Add Score button. The score is added to the list of scores in the Scores label.
- To remove all scores from the Scores label, the user clicks the Clear Scores button.
- To cancel the add operation, the user clicks the Cancel button.

The Update Student Scores and Add/Update Score forms

The image shows two separate dialog boxes. The 'Update Student Scores' dialog box on the left has a title bar 'Update Student Scores'. It contains a 'Name:' label with a text box containing 'Joel Murach'. Below it is a 'Scores:' label with a list box containing '97', '91', and '83'. To the right of the list box are four buttons: 'Add', 'Update', 'Remove', and 'Clear Scores'. At the bottom are 'OK' and 'Cancel' buttons. The 'Add Score' dialog box on the right has a title bar 'Add Score'. It contains a 'Score:' label with a text box containing '88'. Below it are 'Add' and 'Cancel' buttons. Below this is another section titled 'Update Score' which contains a 'Score:' label with a text box containing '97' and 'Update' and 'Cancel' buttons.

Operation

- To add a score, the user clicks the Add button and enters the score in the Add Score dialog box that's displayed.
- To update a score, the user selects the score, clicks the Update button, and changes the score in the Update Score dialog box that's displayed.
- To remove a score from the Scores list box, the user selects the score and clicks the Remove button.
- To remove all scores from the Scores list box, the user clicks the Clear Scores button.
- To accept all changes, the user clicks the OK button.
- To cancel the update operation, the user clicks the Cancel button.

Specifications

- This application should make sure that the user enters a name for a new student. However, a new student can be added without any scores.
- This application should check all scores entered by the user to make sure that each score is a valid integer from 0 to 100.
- When the application starts, it should load the list box with three sample students.

Hint

- To get the labels that display the score total, score count, and average on the Student Scores form, the scores on the Add New Student form, and the name on the Update Student Scores form to look like the ones shown above, you'll need to set the AutoSize property of the labels to False and the BorderStyle property to Fixed3D.

Submission Requirements via D2L:

1. Add a Screenshot to your Project Files, called 2-2.PNG. Display your NAME as the student here.
2. .Zip the Project Files and submit to D2L (**.ZIP** is the ONLY file format I will accept)