X414.20 Fundamentals of Software Development

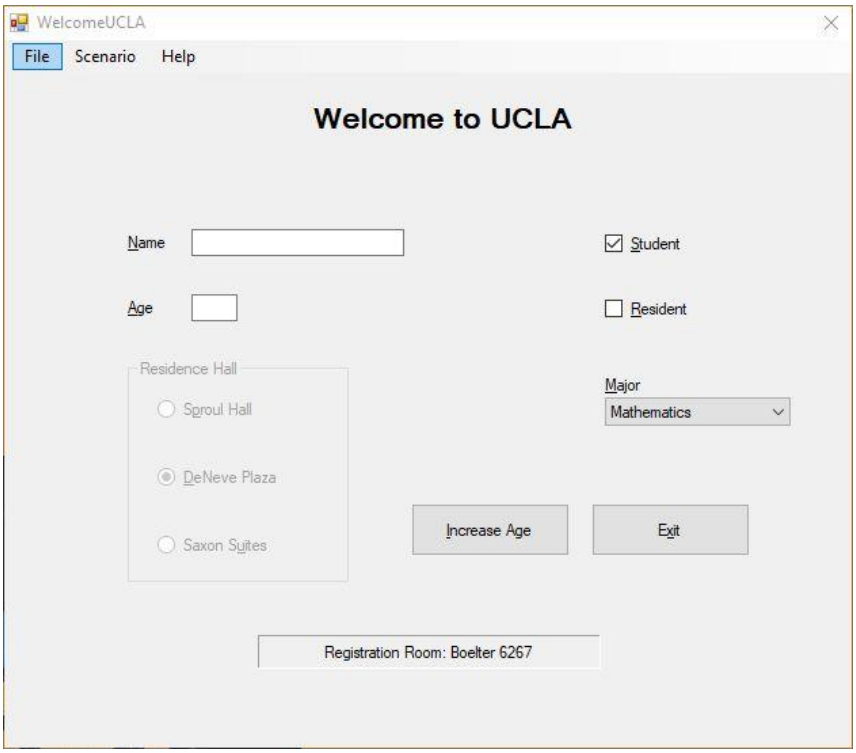
Coding Lab 8 – Intro to Visual Basic

Please complete these lab steps only while in the Zoom meeting.

It is easiest to print these instructions so that you can refer to them during the lab. Your screen will be busy enough with both Zoom window and your Amazon Workspace window.

Task 1 – Access keys and Tab Order.

1. Watch Keith's demo on access keys and tab order. You will be specifying access keys by placing a & in front of the letter you plan to use as an access key on each label text, checkbox text or radio button text. And tab order is changed using View then Tab Order when viewing the form.
2. Now on your own, go ahead and create all the access keys you see below. Don't forget the ones for the Residence Halls. Ignore the menus at the top for now.



3. And now, do the tab order. Make it flow from the top header down the left side of the form and then down the right side of the form, with the exit button being the last. Remember what you need to do at the very end to finish.
4. Test this out. Tab through the form to check tab order. And also check all of your access keys to ensure they land the focus in the correct place.
5. When done, do a File / Save All and signal Keith to check this.

Task 2 – Coding with the Linear Nested If Statement

1. Keith will illustrate the syntax for 1) declaring variables and constants, 2) the linear nested if statement, 3) compound conditions and 4) concatenation in Visual Basic.
2. Now it's your turn. Add the code necessary for the program to display in the Enrollment Room message area the following when the combo box for the major changes values (this is the default event for the combo box, which is called SelectedIndexChanged):

Majors	**Enrollment Room Message**
English, Kinesiology	Enroll at Rolfe Hall Lobby
Mathematics, Cybernetics	Enroll at Boelter 6267
All other majors	Enroll at Murphy Hall Registrar

3. Test this out.
4. Now, instead of directly displaying the message in the Enrollment Room message area, let's have you instead declare a string variable called **strEnrollRoom**. You will use the linear nested if to assign the room to this variable, according to the following chart:

Majors	**Enrollment Room**
English, Kinesiology	Rolfe Hall Lobby
Mathematics, Cybernetics	Boelter 6267
All other majors	Murphy Hall Registrar

   And then after doing so, you will concatenate "Enroll Room: " in front of the room variable and place its results in the Enrollment Room message area.

5. Test this out, and when complete, do a File / Save All and signal Keith to check this.

Task 3 – Create a linear nested If statement for validation

1. Keith will illustrate numeric validation, and also how to clear a textbox and relocate the focus to it.
2. Now it's your turn. Extend the If statement into a linear nested If that tests the following:
   a. The age must be numeric.
   b. The age must be above 0, otherwise the error is "Age must be a positive number"
   c. The age can't be over 130, otherwise the error is "Age must be 130 or less"
3. Make sure that in each case, after displaying the error message, the textbox is cleared and the focus is relocated there for the convenience of the user.
4. Also, instead of using 130 as an actual constant, think about how to use concatenation here to use a defined constant called MAXAGE. How do you declare this? How do you use it in the test? How do you use it in the error message?
5. Test everything, and once working, File / Save All and then signal Keith to check this.

Task 4 – Add Menus to the Program

1. Keith will give a demo of how to create menus.
2. Now it's your turn. Create a menu strip that contains: File Scenario Help

3. The File menu will have:
    a. Print Form (then make this disabled)
    b. A separator line
    c. Exit (this will exit the program)

4. The Scenario menu will have:
    a. Grad Student (this will make sure Student is checked and the hall is Saxon Suites)
    b. Faculty RA (this will make sure Student is not checked and Resident is checked)
5. The Help menu will have:
    a. About WelcomeUCLA… (This will display a copyright message)
6. Now that you have created the menu structure, each of these menu items (not the ones on the strip itself at the top) will have a Click event and in that will contain the code necessary to do what is indicated in the parentheses.
7. Test this out. When done, File / Save All and signal Keith to check this, if the meeting is still going.

Task 5 – Submit your files in Canvas

1. Save your project.
2. Re-open your Google Chrome. Be sure to choose Chrome from inside your AWS, not the one on your physical computer.
3. You should be in Canvas. If not, browse there and login.
4. Go to **Modules**. Then **Module 8**. If it doesn't display automatically, click the wedge next to it to open things up. Click on **Coding Lab – M8** – **VB Coding**.
5. Click the big **Submit Assignment** button.
6. Under **File Upload**, click **Choose File**.
7. In the File box, navigate to your profile on **D**, then to **source**, then to **repos**, then to your solution folder and finally to your project folder.
8. You will submit two .vb files. One contains your designer spec for the form, and the other is the code in the form. For each of these .vb files you generated tonight:
    a. highlight the file
    b. click it and then click **Open** (or you could simply double-click the file).
    c. The file should appear next to the **Choose File** button.
9. Remember, you will need to choose **+Add Another File** for the second file. **There should be a total of 2 files.** If your initials were BK, they would be ***frmWelcomeUCLAbk.vb*** and ***frmWelcomeUCLAbk.Designer.vb***. Please do NOT include any other files.
10. You may add a comment to the **Comments…** area if you wish.
11. Then click **Submit Assignment**. The button will change to **Submitting** and then you will be returned to the Coding Lab screen. Assignment should be marked as Submitted! In the upper right corner.
12. Later, to check your score, click on **Grades** in the second-level menu on the left.
13. If I haven't graded your program yet, you will see an icon. Other, you will see a score. You can click on the name of the assignment to see my comments and to issue further comments or respond to mine.

14. Coding Labs will typically receive a score of 5 if you completed the lab and your submission was substantially correct. You may receive a score of 4 if there are some problems, and 3 if it is incomplete. You will receive a 0 if you did not participate in the lab. Ignore any "Total" scores that Canvas may show. They are meaningless.

Congratulations on completing your seventh Coding Lab!!!