

## CSIS 1175 – 002 (Winter 2022)

### Assignment# 2 (10%)

**Due: Friday April 8<sup>th</sup>, 2022**

**Total Points: 25**

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**\*\* For this assignment creates a project in Visual Studio named **firstnameA2\_1175\_002**, where firstname is your first name, Make sure all the required classes/files are in this project.**

**\*\* Submit your assignment (Visual Studio project) on the Blackboard course web page. There is a maximum of three attempts, the latest attempt will be graded. This is individual student work, please submit your own work.**

**\*\* In the case of cheating both copies and copied will get zero and violations of Academic Integrity policy will be reported to the appropriate responsible Administrator for adjudication.**

**\*\* Don't forget to add comments to your code.**

**Submission:** Compressed/zipped your **firstnameA2\_1175\_002** project that contains all the required classes/files and upload it on Blackboard.

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- a) Create a GUI application named **firstnameA2\_1175\_002** that contains the classes given below.
- b) Create a class named **Student** that contains
  - i. fields for student id (int), student full name (should be an array), date of birth (string format: mm/dd/yyyy), department (string), medical coverage (bool) and status either domestic or international (string).
  - ii. one default constructor.
  - iii. one parameterized constructor that accepts one parameter for each of the fields.
  - iv. property for each of the field.
  - v. **GetLastName( )** method to extract last name from the full name.
  - vi. **GetBirthYear( )** method to extract birth year from the date of birth.
  - vii. a **ToString( )** method.
- c) Design a GUI app having StudentForm as shown in figure# 1 given below. The StudentForm has Add, Display Records, Search and Exit options.
- d) Clicking the Add button should open AddForm as shown in figure# 2 which will accept student id, full name (format: first\_name last\_name, with a space in between first name

and last name), date of birth (format: mm/dd/yyyy), department, medical coverage and status as input as shown in figure# 2. Student Id (numeric) and full name should be validated and assume that the date of birth is entered in the right format. AddForm has three buttons Add, Reset and Home.

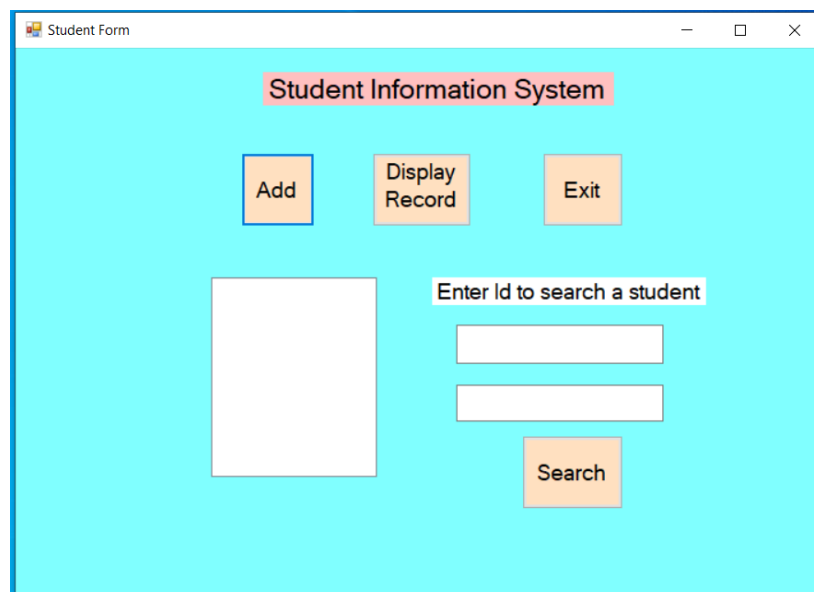
- Clicking the Add button should use valid user input to instantiate an object of the Student class and save the data in a file named StudentInfo.txt with a confirmation message as shown in figure# 3.
  - Clicking the Reset button should reset all the fields in the AddForm.
  - Clicking the Home button should take you back to StudentForm.
- e) Clicking the Display Record button should display extract all the records from the StudentInfo.txt and should display in a listbox as shown in Figure# 4, displaying only last name and department name for each student.
- f) Asking a user to enter an id (figure# 5) to search and clicking the Search button should display a particular student record in a textbox as shown in figure# 6. If a student id does not exist, display an error message as shown in figure# 7.
- g) Clicking the Exit button should close the application.

**Note:**

- Don't forget to add comments.
- For this assignment data should be read and written to a text file as shown in figure# 7.

**Sample input/output**

**Figure# 1**



The screenshot shows a window titled "Student Form" with a light blue background. At the top center, there is a red rectangular box containing the text "Student Information System". Below this, there are three orange buttons with black text: "Add", "Display Record", and "Exit", arranged horizontally. To the left of the "Display Record" button is a large, empty white rectangular box. To the right of the "Add" button, there is a label "Enter Id to search a student" above two stacked white text input fields. Below these input fields is an orange button with black text labeled "Search".

**Figure# 2**

The screenshot shows a web application window titled "Student Add Form". The main heading is "Add a Student". Below the heading, there are three input fields with labels: "Enter Student Id" (value: 300123), "Enter Student Full Name" (value: George Tim), and "Enter DOB (mm/dd/yyyy)" (value: 02/02/2002). To the left of the "Status" section is a dropdown menu with options: ACCT, BUSN, CSIS (selected), and ECON. The "Status" section has two radio buttons: "Domestic" and "International" (selected). To the right of the radio buttons is a checkbox labeled "Medical Coverage" which is checked. At the bottom of the form are three buttons: "ADD", "RESET", and "HOME".

**Figure# 3**

This screenshot shows the same "Student Add Form" window as Figure 2, but with a confirmation dialog box overlaid in the center. The dialog box has a title bar with a close button (X) and contains the text "student is added" with an "OK" button below it. The background form is partially obscured by the dialog box, but the "ADD" button is now highlighted with a blue border, indicating it was the button that triggered the confirmation.

**Figure# 4**

The screenshot shows a window titled "Student Form" with a light blue background. At the top center, there is a pink rectangular box containing the text "Student Information System". Below this, there are three orange rectangular buttons arranged horizontally: "Add", "Display Record", and "Exit". The "Display Record" button is highlighted with a blue border. To the left of the search area, there is a white rectangular box containing the text: "Tim CSIS", "Tim CSIS", "Jim ACCT", and "Kim. MARK". To the right of this box, there is a label "Enter Id to search a student" above two empty white input fields. Below the input fields is an orange rectangular button labeled "Search".

**Figure# 5**

This screenshot is similar to Figure 4, but the first of the two input fields under the "Enter Id to search a student" label now contains the text "300222". The "Display Record" button remains highlighted with a blue border. All other elements, including the window title, buttons, and the list of student names, are identical to the previous figure.

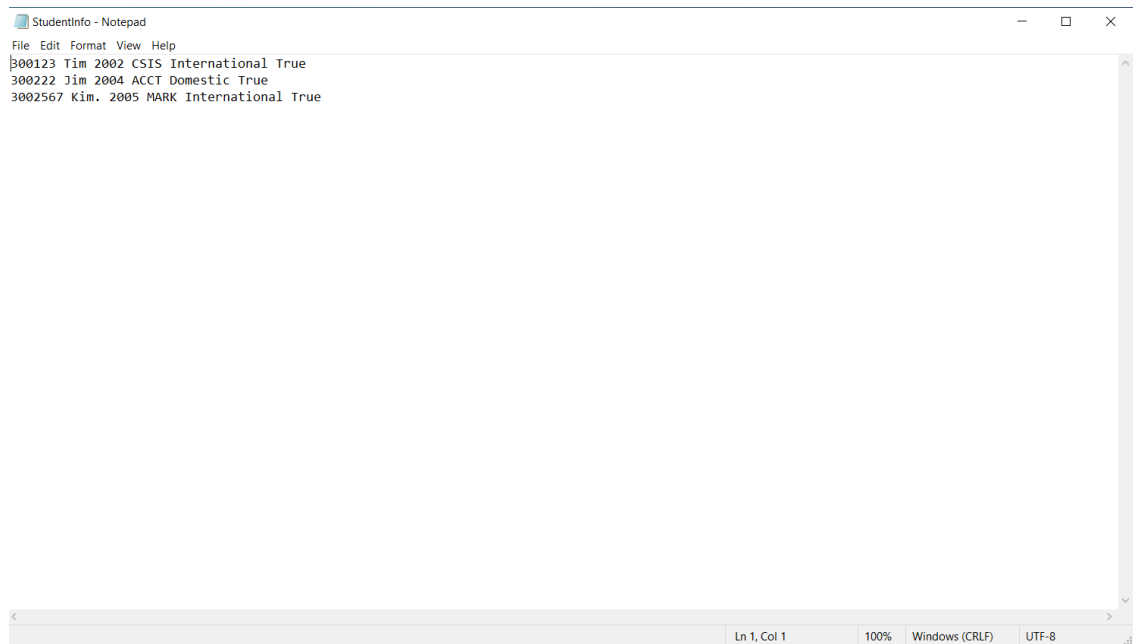
**Figure# 6**

The screenshot shows a window titled "Student Form" with a light blue background. At the top center, there is a pink rectangular box containing the text "Student Information System". Below this, there are three orange rectangular buttons arranged horizontally: "Add", "Display Record", and "Exit". In the lower-left area, there is a white rectangular box containing a list of student names: "Tim CSIS", "Tim CSIS", "Jim ACCT", and "Kim. MARK". To the right of this list, there is a section titled "Enter Id to search a student" in a white box. Below this title, there are two white input fields. The first field contains the text "300222", and the second field contains the text "Jim ACCT". Below the input fields, there is an orange rectangular button labeled "Search".

**Figure# 7**

The screenshot shows the same "Student Form" window as Figure 6. The layout is identical, but the search results are different. The white box containing the list of student names still shows "Tim CSIS", "Tim CSIS", "Jim ACCT", and "Kim. MARK". The "Enter Id to search a student" section now has the first input field containing the text "123". The second input field now contains the text "Item not found". The orange "Search" button remains at the bottom.

**Figure# 7 Sample StudentInfo.txt**



```
StudentInfo - Notepad
File Edit Format View Help
300123 Tim 2002 CSIS International True
300222 Jim 2004 ACCT Domestic True
3002567 Kim. 2005 MARK International True
Ln 1, Col 1 100% Windows (CRLF) UTF-8
```