

Exam#1:

1. define 2 structures as follows:

a. Assignment that contains:

- ignoreLowestScore (bool value: true or false)
- array of discussion scores[10] (float value range: 0.0...10.0)
- array of quiz scores[10] (float value range: 0.0...30.0)
- array of project scores[10] (float value range: 0.0...100.0)
- array of exam scores[3] (float value range:0.0...100.0)

b. Student Information that contains:

- name (C-string[51]) : ONLY contains alphabet character(s) and space(s)
- studentID (C-string[9]) : contains "ccddddd" format(c is an alpha character and d is digit character)
- DateOfBirth (C-string[11]) : contains "mm/dd/yyyy" format(mm is month in range: 1...12), dd is day and yyyy is the year)
- collegeLevel (short) value: 0-unknown, 1-freshman, 2-sophomore, 3-juniro, or 4-senior
- scores (nested Assignment structure)
- term (C-sstring[7]) : contains "ddddSP", "ddddSU", or "ddddFA"

2. write a main menu-driven program allows the user to select options:

A>use vector for storing multiple Student Information elements
B>use dynamic array for storing multiple Student Information elements
C>use binary for storing multiple Student Information elements
X> terminate the program

For A or B option, each will perform its own sub-menu options:

- 1> Specify/Read binary data and store into the data structure
- 2> Add a new student record
- 3> Search for a student record
- 4> Delete a student element (5 Xtra points)
- 5> Update a student element
- 6> Display ALL student elements from the data structure
- 7> Write the data from the data structure (vector or array) into a binary file

For C option, it will have its own sub-menu options:

- 1> Specify a binary file
- 2> Add a new student element
- 3> Search for a student element

- 4> Delete a student element (5 Xtra points)
- 5> Update a student element
- 6> Display all student elements from the binary file

When display any or all student information element, calculate the overall letter grade and percentages:

≥ 89.0 – A

≥ 79.0 – B

≥ 69.0 – C

≥ 59.0 – D

Else F