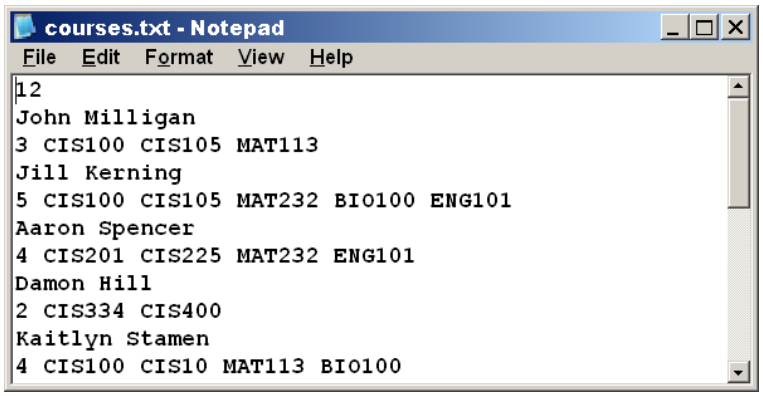
CCSCI 275 Assignment #4
Due: Saturday 2/19/22
Late: Saturday 2/26/22 (10 point penalty)
Points: 60

Task:
This program manages an array of students and courses. It practices primitive arrays, and functions.

Input:
File **courses.txt** contains a list of student names, the number of courses taken, and the names of the courses. The first line of the file contains the number of students. Code should accommodate up to 20 students but the number used in not known until an input file is opened. Code should work for any valid input file.



1. Complete **Student.h**. This header file can be downloaded from Brightspace and should not be altered. A student object stores the name of the student, the number of courses taken in range 1 .. 5 and an array of the course names. Code assumes no more than 5 courses are taken.

```
#pragma once
#include <string>
using namespace std;

class Student
{
public:
    Student()                               // POST: empty student with no courses
    {   name = "";
        nCourses = 0;
        for (int k=0; k<5; k++)
            courseList[k] = "";
    }
    // accessors
    string getName() const                  // POST: return name
    { }
    int getNcourses() const                 // POST: return number of courses
    { }
    string getCourse(int index) const       // PRE: 0 <= index < number of courses
    { }
                                            // POST: return course name at index
    // modifiers
    void setName(string s)                  // POST: set name to s
    { }
    void setNcourses (int n)                // PRE: number of courses in range 1..5
    { }                                     // POST: set number of courses
    void setCourse (int index, string s)    // PRE: 0 <= index < number of courses
    { }                                     // POST: set course name at index to s
private:
    string name;                            // name of student
    int nCourses;                           // number of courses student is taking
    string courseList[5];                   // array of course names
};
```

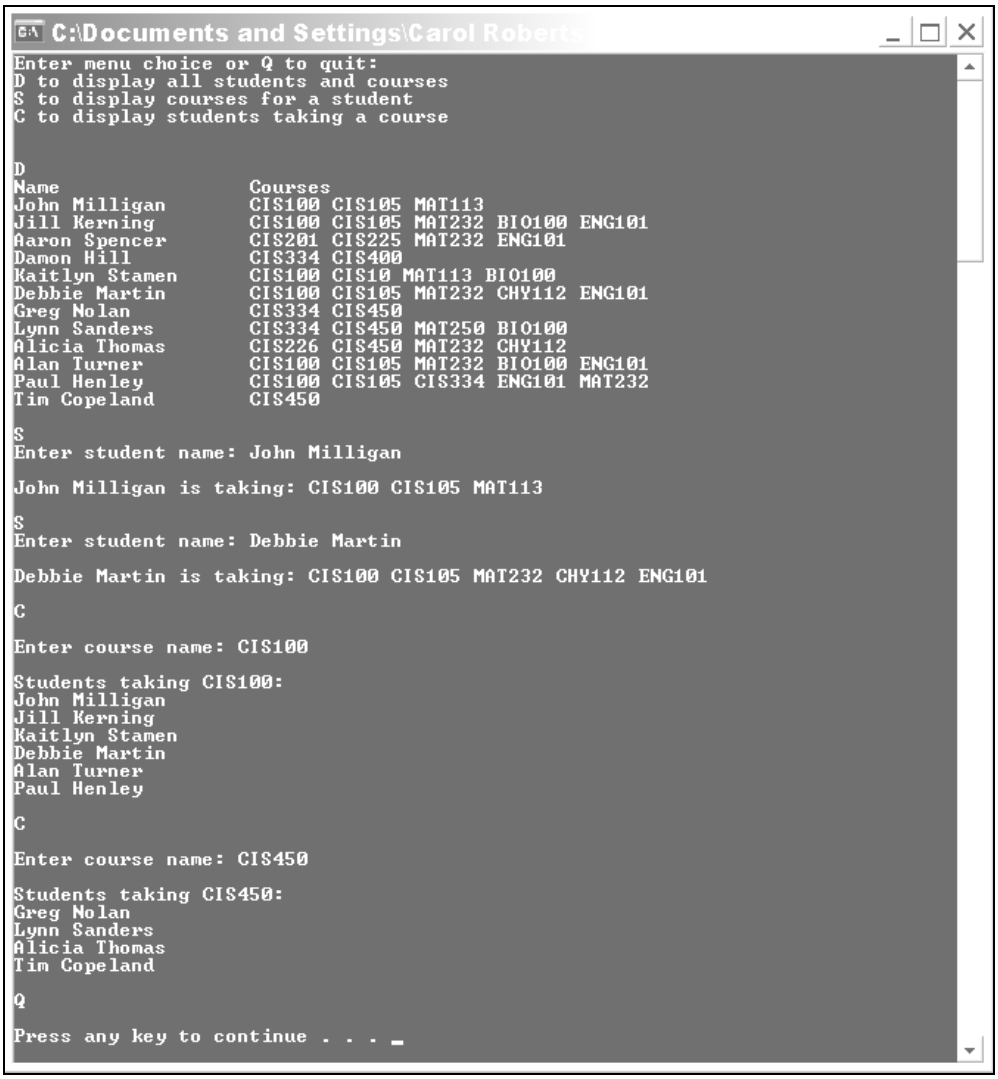
2. The application uses a primitive **Student** array with capacity 20. Read the data from the file into the Code may assume the array capacity is sufficient and the data is valid. Code should work for any valid file. Display a menu of choices.

a. Display all students and courses
b. Enter a student name and report a list of courses taken by the student
c. Enter a course number and report a list of all students taking this course

Required Code:

1. Code must use a primitive array versus a high-level class.
2. Code should use functions for each task (a. Display, b. Report course list, c. Report Course Enrollment)
3. No global variables/objects may be used.
4. No break or continue out of loops; the loop should end when the loop test is false.

Sample Output:



Submission:

Upload the class header file (**Student.h**) and the source code (**Source.cpp**) to Brightspace. I will download and run it for testing. Note: Code is not accepted that does not compile.

Need Help?

1. Email your question with your attached .cpp source code file. Do not attach an image or a pdf. Do not paste your code into the email body. I would like to download your code so I can test it as needed.

2. Use the scheduling software on the left side of Brightspace to schedule a Zoom meeting with me. If you cannot make the listed times, email me a list of your free times.