

Project 5 Report

The objective of project 5 in the University Degree Check was to add more functionality to project 4 by allowing the user to input data using a default file or from their own specified file, having the program write its current list of courses (the variables stored in the arrays) to an output file, and finally we give the user the ability to remove a course from the list. The default file in question is called "courses.txt"; the program is made to both write to as well as read in the contents of courses.txt. Initially, the problem statement didn't sound too bad; however, there was a good amount of critical thinking required to correctly implement everything while maintaining all of project 4's functionality. After fixing all of my previous errors in project 4, I began with writing the function that writes the final course list to "courses.txt." The method declarations were given, however all the bodies were left open. All that was needed was to create a for loop that used the outfile << command instead of cout<< to write all parts of the course list to courses.txt. This happens after "Q" is keyed in and before the program finishes executing. The reading method was very similar, except it used the infile commands. A check was needed for the failure case in both methods for the files opening. The beginning of the program now also gives the user the choice of input. After those were done, an option "f" was added to the menu to remove a course. Multiple checks for the correct index as well as correctly removing data from the array based on the location in the array. There are no known errors with the program.

Input 1

C
2
Programming Foundations I
Fall 2015
2004
A
4
Digital Design
Fall 2015
2114
D
4
a
b
c
f
1
y
b
q

Output 1

How would you like to input your course data?
[A] Read in from the default file (courses.txt)
[B] Read in from another specified file
[C] Manual input
Enter how many classes you're taking/have taken:
Class name:

Term of enrollment:

Course number:

Grade:

Hours (1-5):

Class name:

Term of enrollment:

Course number:

Grade:

Hours (1-5):

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

Your GPA is: 2.5

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

You have taken 2 classes.

Classes: Programming Foundations I Digital Design

Terms: Fall 2015 Fall 2015

Course Numbers: 2004 2114

Grades: A D

Hours: 4 4

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester

- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

Total hours (grade D): 4

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

Enter the index of the course you'd like to remove

[0] Programming Foundations I

[1] Digital Design

Is this the course you'd like to remove?

Name: Digital Design

Semester: Fall 2015

Course Number: 2114

Grade: D

Hours: 4

y/n

Course deleted.

Welcome to the GPA and Course storage program menu.

Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

You have taken 1 classes.

Classes: Programming Foundations I

Terms: Fall 2015

Course Numbers: 2004

Grades: A

Hours: 4

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

Successfully outputted to file!

Input 2 (using courses.txt from input 1's output)

a
e
Digital Design
Fall 2015
2114
B
4
a
b
q

Output 2

How would you like to input your course data?
[A] Read in from the default file (courses.txt)
[B] Read in from another specified file
[C] Manual input

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list

F. Remove a course from the current list

Q. Quit the program

Class name:

Term of enrollment:

Course number:

Grade:

Hours (1-5):

You have taken 2 classes.

Classes: Programming Foundations I Digital Design

Terms: Fall 2015 Fall 2015

Course Numbers: 2004 2114

Grades: A B

Hours: 4 4

Welcome to the GPA and Course storage program menu.

Now that you've entered your class information, please enter the character next to the choice you wish to pick.

A. Compute the GPA for all courses

B. List all courses

C. Compute the total credit hours of courses with grade D

D. Compute the GPA for a particular semester

E. Add another course to the course list

F. Remove a course from the current list

Q. Quit the program

Your GPA is: 3.5

Welcome to the GPA and Course storage program menu.

Now that you've entered your class information, please enter the character next to the choice you wish to pick.

A. Compute the GPA for all courses

B. List all courses

C. Compute the total credit hours of courses with grade D

- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

You have taken 2 classes.

Classes: Programming Foundations I Digital Design

Terms: Fall 2015 Fall 2015

Course Numbers: 2004 2114

Grades: A B

Hours: 4 4

Welcome to the GPA and Course storage program menu.
Now that you've entered your class information, please enter the character next to the choice you wish to pick.

- A. Compute the GPA for all courses
- B. List all courses
- C. Compute the total credit hours of courses with grade D
- D. Compute the GPA for a particular semester
- E. Add another course to the course list
- F. Remove a course from the current list
- Q. Quit the program

Successfully outputted to file!