

Project - Grading Program

Objectives:

- Create a multidimensional array
- Traverse a multidimensional array
- Open/Close Files
- Write and use procedures to manage the flow of the program

Directions:

You are going to create a grading program. The grading program will take in data from a file called **input.dat**. **input.dat** contains 30 students id numbers and test scores (see attached). The grade program should read the file contents into a multidimensional array called *DHSper7*. Your program needs to do several things by default:

- Open and read the contents of **input.dat** into the *DHSper7* array
- Sort the array by student ID number
- Display all results on screen (not in **input.dat** or in another file)

You need to give the user some options:

- Display all students and their scores (sorted by student ID number)
- CRUD Functionality (Create, Read, Update, Delete) for students and their scores
 - Take the user to another menu with Create, Update, or Delete
- Display statistical data for the students grades
 - Mean, median, mode, and outliers (high and low) for Test 1
 - Mean, median, mode, and outliers (high and low) for Test 2
 - Mean, median, mode, and outliers (high and low) for Test 3
 - Mean, median, mode, and outliers (high and low) for all Tests
- Export sorted students and statistical data to a file named **backup.dat**

Other Information

- Scores are in percentages

Suggestions

This program seems overwhelming I'm sure. First, sort out exactly what you need to do and then determine the order in which you need to do it. Break it into logical chunks, for example:

1. Opening and copying data from a file named **input.dat**
2. Converting the data from the file to a multidimensional array of integers
3. Sorting the array by student id
4. Etc.

Collected

- Pseudocode
- Completed program
 - Electronically
 - Printed

Grading Rubric

Item	Score	Possible
Manifesto & Pseudocode		/40
Display all students and their scores sorted by student ID number		/40
Add, Edit, and Delete Students		/40
Add, Edit, and Delete Scores		/40
Display statistical data including mean, median, mode, and outliers for individual tests		/40
Display statistical data including mean, median, mode, and outliers for all tests		/40
Export sorted student data and statistical data		/40
Comments – comments used to document the code		/40
		/320

Possible values

0	Not completed
10	Incomplete
20	Somewhat completes the work. An attempt was made but some fundamental piece is missing or misinterpreted. Many mistakes are made.
30	Satisfactory, the work is adequately completed. A few minor mistakes are made.
40	Excellent, the work is completes the tasks involved. No mistakes are made.