

OOP W3 Lab 3 C++

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Requirements:

Improve the simple C++ student management program from Lab 2. For this week you need to keep the information of each student's name and score in a class and maintain the list of student objects in a dynamically allocated array using a pointer.

- (1) Create the Student Class that stores name and score. Make sure to have a constructor and destructor.
- (2) Use C++ dynamic array data structure using pointers to store a list of all the student objects.
- (3) Implement a function that allows users to create and add a new student object to the list of students (remember to use constructor through 'new' keyword).
- (4) Implement a function to display the list of all students and their scores.
- (5) Implement a function to display the best student(s)'s name(s) and their score(s) (there could be more than one student who has the same highest score).
- (6) Implement a function to remove a student from the list based on the name input (remember to use destructor through 'delete' keyword)
- (7) Use C++ WHILE loop to create a text-based menu that allows users to choose the above functionalities or to exit the program.

Submission:

Create a zip file of all your .cpp and .h project files.

Make sure to name your zip file using the following format

[StudentID]_[StudentFullName]_[ClassName]_Lab3.zip

Submit your zip file before the deadline using the corresponding link on Moodle for your class (each class has a different deadline).

Resources:

- (1) Weekly slides & Youtube Videos at Cat Can Code & Meo Lap Trinh channels
- (2) C++ How to Program, 9th Edition, Paul Deitel
- (3) Object-Oriented Programming in C++, 4th Edition, Robert Lafore
- (4) <http://www.cplusplus.com/doc/tutorial/dynamic/>
- (5) <https://www.geeksforgeeks.org/pointers-vs-references-cpp/>
- (6) <https://www.cplusplus.com/doc/tutorial/classes/>
- (7) <https://www.geeksforgeeks.org/destructors-c/>
- (8) <https://www.geeksforgeeks.org/how-to-initialize-array-of-objects-with-parameterized-constructors-in->