

EECS 560 Lab 1: Vector

Due date:

09/04/2020, 11:59 pm -Friday

Objective

Get familiar with ADT implementation with C++ and the lab setup of this course. Recap C++ fundamentals such as object, constructor and destructor, template, and overloading.

Specification of the ADT

Implement the code available in Figure 3.7 and Figure 3.8 of the textbook (Data Structures and Algorithm Analysis in C++ by Mark Weiss, 4th Edition).

Additional requirement:

1. Rename the object name into “myOwnVector”, instead of “vector” as indicated in the textbook.
2. Your object should contain a copy constructor that supports initialization using STL vector. The constructor should have an interface of `myOwnVector(const std::vector<Object>& data)`
3. Implement an “append” method, which accepts as parameter another myOwnVector object and appends all items in the parameter to the end of the current object. The constructor should have an interface of `myOwnVector<Object>& append(const myOwnVector<Object>& data)`

Testing and Grading

We will test your implementation using a tester main function, on a number of instances that are randomly generated. We will release the tester main function, several instances (will be different from the grading instances but will have the same format), and expected output together with the lab instruction via Blackboard. Your code will be compiled under Ubuntu 20.04 LTS using g++ version 9.3.0 (default) with C++11 standard.

The command line we are going to use for compiling your code is:

“g++ -std=c++11 main.cc” (note that main.cc will try to include the .h file you submit, and your .h file needs to be properly implemented to compile successfully).

Your final score will be the percentage your program passes the grading instances. **Note that if your code does not compile (together with our tester main function), you will receive 0.** Therefore, it is very important that you ensure your implementation can be successfully compiled before submission.

Submission and Deadline

Please submit your implementation as a single .h file, with a file name “myOwnVector_[YourKUID]”. For example, if my KU ID is c123z456, my submission will be a single file named “**myOwnVector_c124z456.h**”. Submissions that do not comply with the naming specification will not be graded. Please submit through Blackboard. **The deadline is Friday September 4th, 2020 11:59PM.**