EECS 560 Lab 1: Vector

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). Note that it is a template object; so, you may want to combine all your implementations in the .h file.

Additional Requirements:

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

Testing and Grading

We will test your implementation using the tester main function posted online. The posted input and output examples should be used for a testing purpose, while we will use another set of inputs for grading. Your code will be compiled under Ubuntu 20.04 LTS using g++ version 9.3.0 (default) with C++11 standard.

Your final score will be the determined by the success percentage of your program when fed with many random inputs. 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 "myVector_[YourKUID].h". For example, if my KU ID is c123z456, my submission will be a single file named "myVector_c124z456.h". Submissions that do not comply with the naming specification will not be graded. All submission will go through Blackboard. The deadline is Friday September 3rd, 2021 11:59PM.