CS202 Project 7 Documentation

Carson Case

This project is a simple one but it uses the advanced concept of dynamic memory allocation to recreate the std::string object (simplified). The class of MyString is an expansion on c-strings that allows for strings to be concatenated, copied, appended and many more without the need for tedious helper functions. The char array itself is dynamically allocated in this case which is useful because when working with strings we often do not know the exact length we need the string to be. Since a char array cannot have it’s size changed at run time when stored in dynamic memory MyStrings are stored with dynamic memory.

My code is fairly self explanatory in most parts with a few comments thrown into the places that might be confusing. The tricky thing I ran into was remembering the null terminator. Since the null terminator takes up a space in a char array, it needs to be included with a “+1” when allocating memory. Otherwise the heap will become corrupted and the program will not run. It took me a while to find the source of this issue as my environment showed the error as coming from the destructor. However, the destructor itself was not the cause of this error, the error was being thrown when the object was being deallocated instead of during the allocation or when the overflow occurred.

All around I am rather proud of this week’s project. It compiles, and I understand the concepts behind it well. Given more time I would love to add more functionality to the class. That way I could use it to do things commonly needed like sort or filter strings like we had to do in the Rental Car Agency projects.