

CSE 330 – Devyash Lodha – Project 1 – Design

Data Structures Being Used

In my current attempt, I translated the given regexes to ECMAScript regexes, and used C++11 regexes to make it work. Unfortunately, the implementation works perfectly on my computer, but does not provide the correct output on the ASU general server. The issue is that the libstdc++ version installed on the general server contains known bugs, and does not provide the correct output. If this program is run on a later version (GCC \geq 4.9), Clang, or later MSVC, it works perfectly on the given test cases.

I use memory-mapped files to make programming easier, and use RAII for all memory allocations and deallocations, meaning I have no memory leaks.

I initially was attempting to use the glibc regex functions but they did not seem to work, because I was having stack even using a stock implementation.

For the final version of this project, I will be using the Thompson's algorithm to translate the RegExp to a NFA, and then to a DFA, and then run it.

I worked by myself for the entire project. I used a C++ reference, and the manual pages for the glibc library.