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P1 Design

For this project I attempted to make data structures to mimic the objects we draw when construct NFAs and DFAs on paper. I made a class for State nodes which were comprised of Booleans whether it was a start or final state and vector of transitions. Each vector is comprised of a pair of char vectors and a pointer to State node of the transition. The char vectors are all the inputs that lead to that state. I represented an epsilon transition with the char, '\0'. At a higher level I constructed a data structure for an NFA which likewise kept track of a start and final state with pointers. This class has useful methods for constructing an NFA from a regex in post order form which is computed in main.cpp. I created a DFA class but am omitting it to incompletion causing compilation errors. By the time I got to this point in the project the logic for creating this class became very convoluted from a compounding of design mistakes in the previous data structures. Therefore, this program is completely operational. For the full project I plan to overhaul my data structures to something easier to work with, so I produce something that works.