COMPSCI 250 Discussion #10: Applications in Compilers
Group Response Sheet

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Writing Exercise: We begin by finding a regular expression for the subset of Java Strings we have described, and carry out the various constructions regarding regular expressions and NFAs/DFAs covered in this course. We will use $\Sigma = \{", \backslash, L\}$ as our alphabet, where L represents the alphabetic character class $[a - zA - Z]$.

1. Derive a regular expression for the Strings our compiler accepts.

2. Convert your regular expression to a λ-NFA. (Note: there is a shortcut you can take that merges the initial state with the state it has a transition to. The same is also true of the accepting state and the state with a transition into it. This may make your work cleaner for the remainder of this exercise.)

3. Convert your λ-NFA to an NFA.

4. Convert your NFA to a DFA.

5. Convert your DFA to a minimal DFA.

6. Convert either your DFA from part 4 or your minimal DFA from part 5 into a regular expression.