COMPSCI 2AC3 Assignment 3

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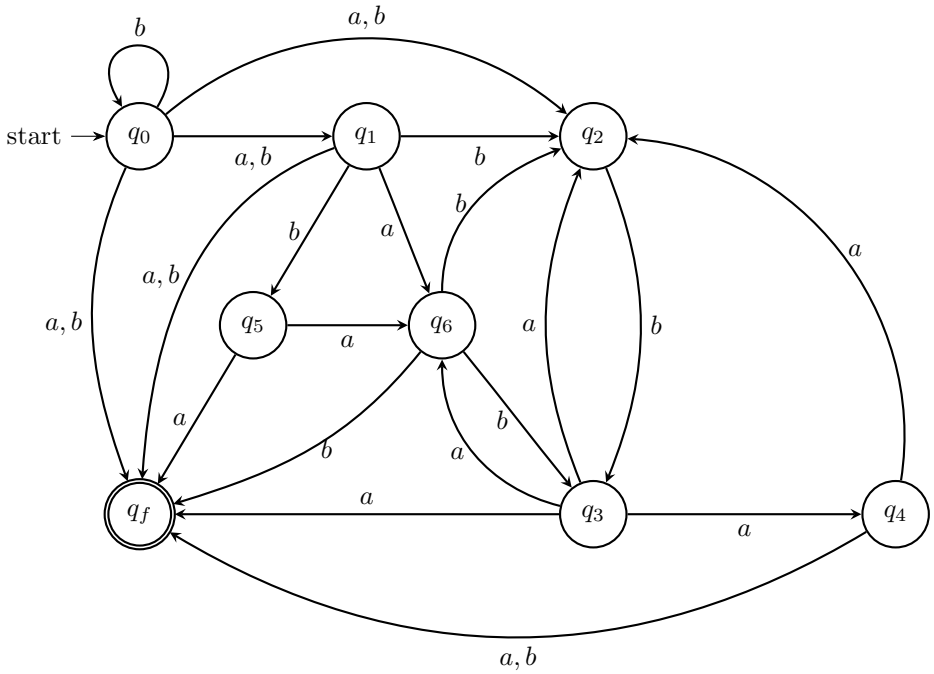
February 24, 2026

1.a



The NFA is correct because it accounts for all possible combinations of a and b that do not have the combinations aaa nor abb with zero or more b's trailing. The NFA accounts for when these combinations may occur in a string, as for example abb may occur at an even or odd index within the string. The NFA also accounts for the fact that abb is only an acceptable string if it is followed by an a, as this would invalidate the criteria for abb(b)*. Finally, the NFA also accounts for the fact that there can be at most two a's in a row, and forces the NFA to transition to a b, or accepting state is there are two a's in a row.