

Steps for creating NFA for $L(((aa + b)^* + ab^*a)^*)$

Step 1) Create 3 states using the state creator tool

Step 2) Initialize q0 as initial state and q2 as final state using the attribute editor tool

Step 3) Use transition creator tool to make the following transitions:

- From q0 to q0, initialize this to b
- From q0 to q1, initialize this to a
- From q1 to q1, initialize this to b
- From q1 to q0, initialize this to a
- From q0 to q2, initialize this to a
- From q2 to q0, initialize this to a

NFA is complete, the following is a screenshot of tests:

The screenshot shows the JFLAP interface with the NFA diagram on the left and a test results table on the right. The NFA has three states: q0 (initial state, double circle), q1, and q2 (final state, double circle). Transitions are: q0 to q0 on 'b', q0 to q1 on 'a', q1 to q1 on 'b', q1 to q0 on 'a', q0 to q2 on 'a', and q2 to q0 on 'a'. The test results table is as follows:

Input	Result
b	Accept
aa	Accept
aaaba	Accept
aaa	Reject
baba	Accept
aaabaaaab	Reject
aaabbbb	Reject
bbbbbbb	Accept
bbbabaaabb	Accept
babbabaabb	Accept

To convert to DFA:

Step 1) Click on Convert > Convert to DFA

Step 2) Click Complete

Step 3) Move states using the Attribute editor tool

Step 4) Click 'Done?'