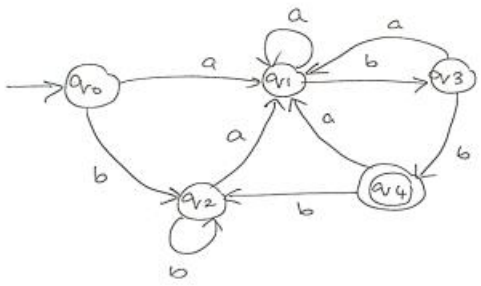
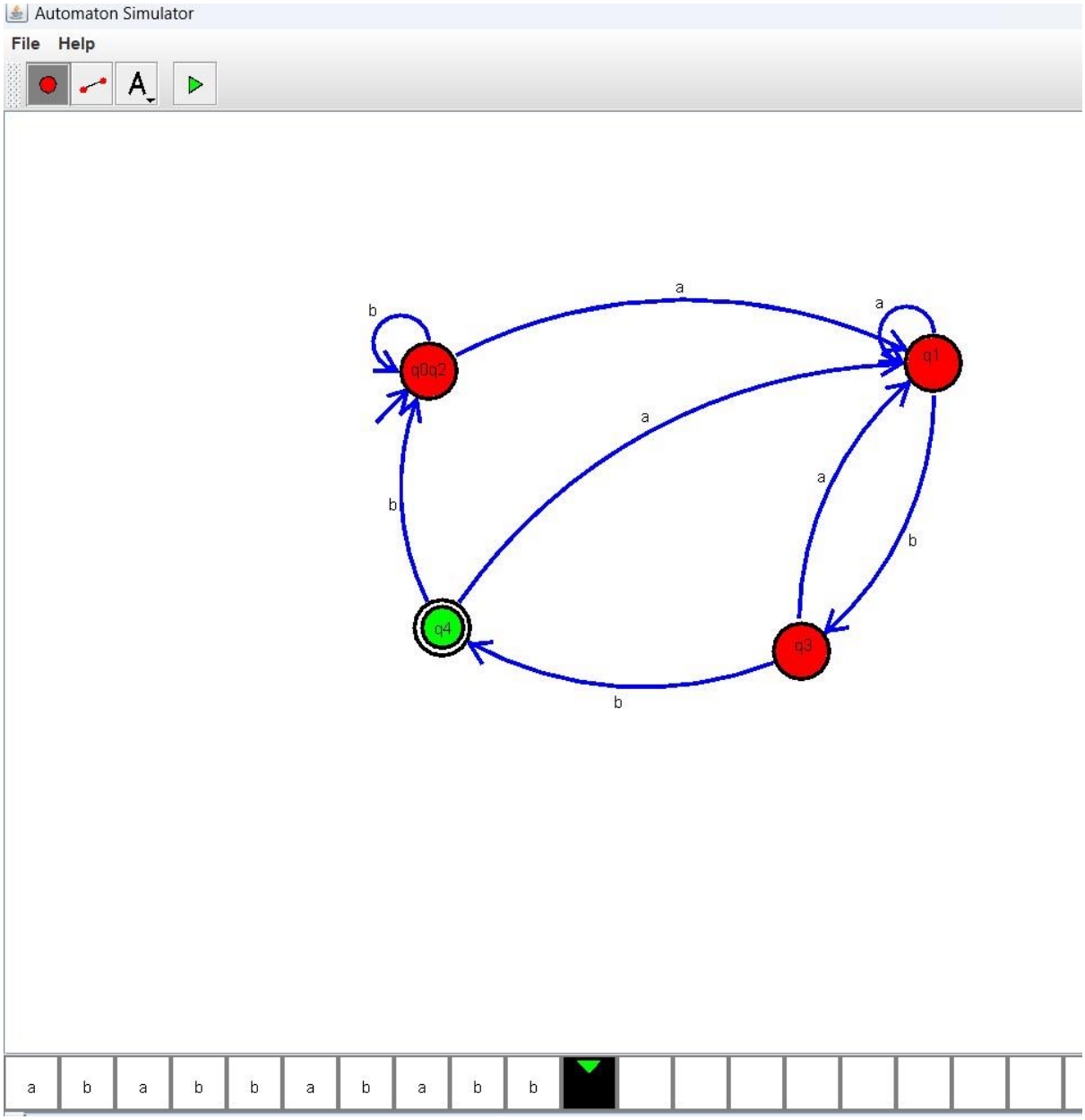
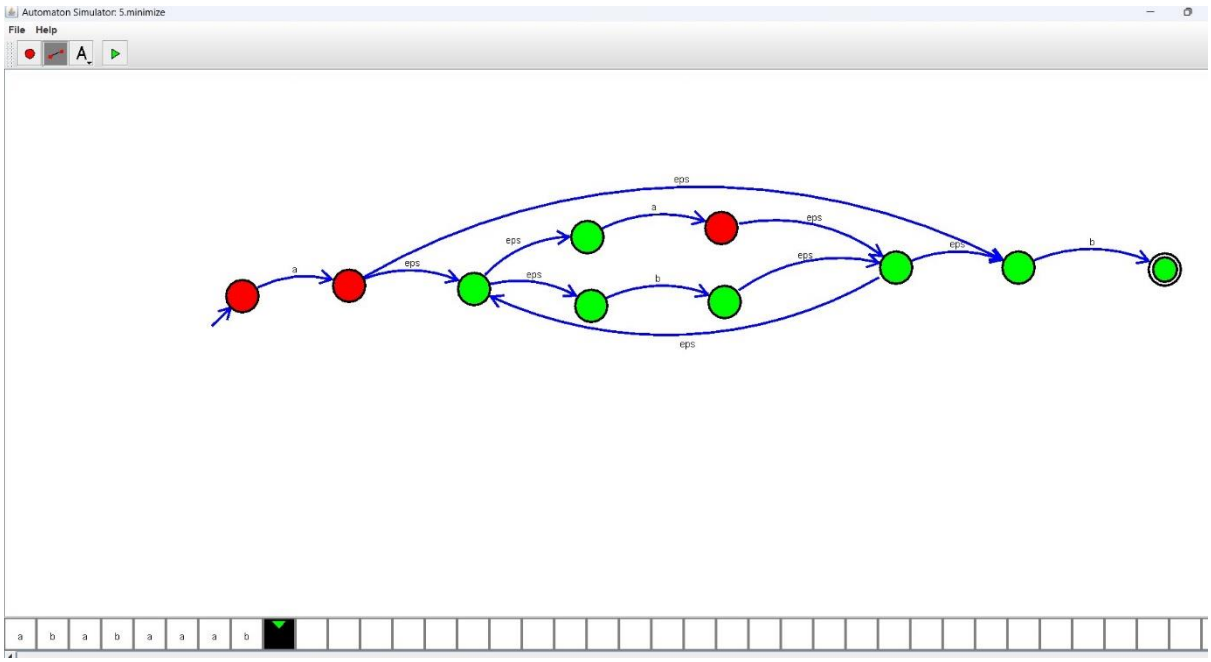
1. **Minimize the DFA given below**:



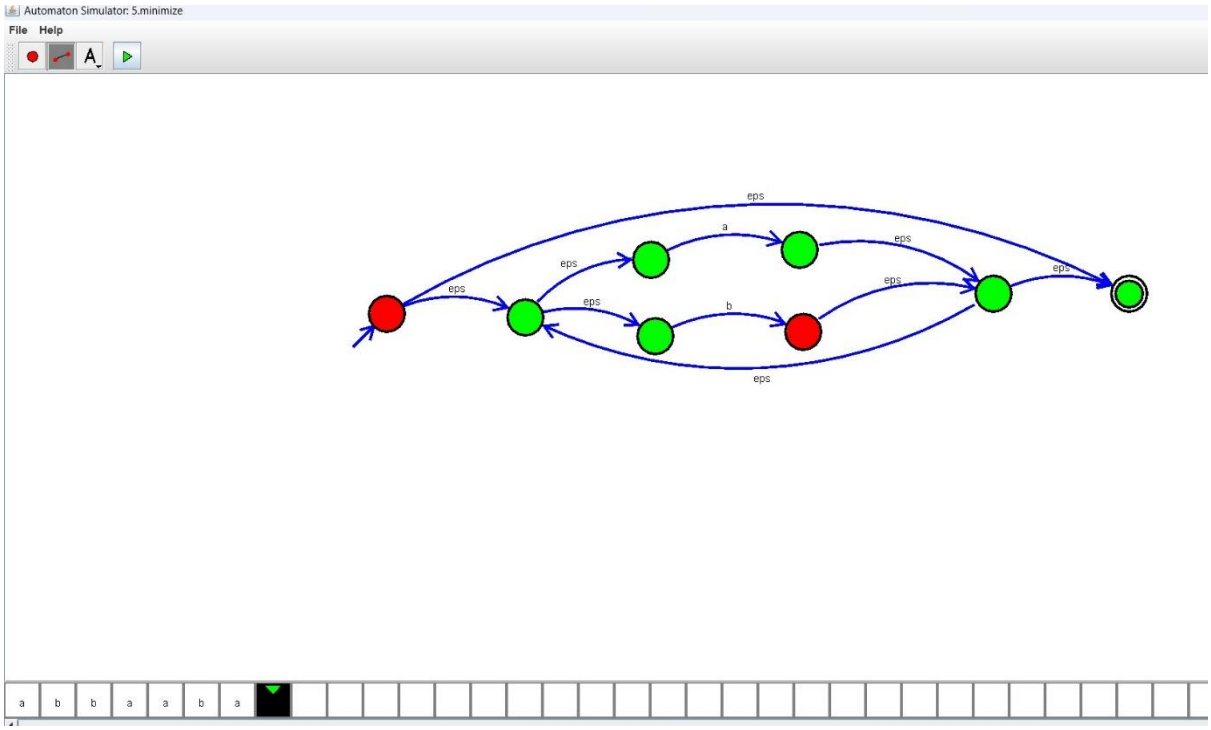


2.1 Define r.e. for the following languages:

Set of all strings that start with a and end with b over ={a,b}

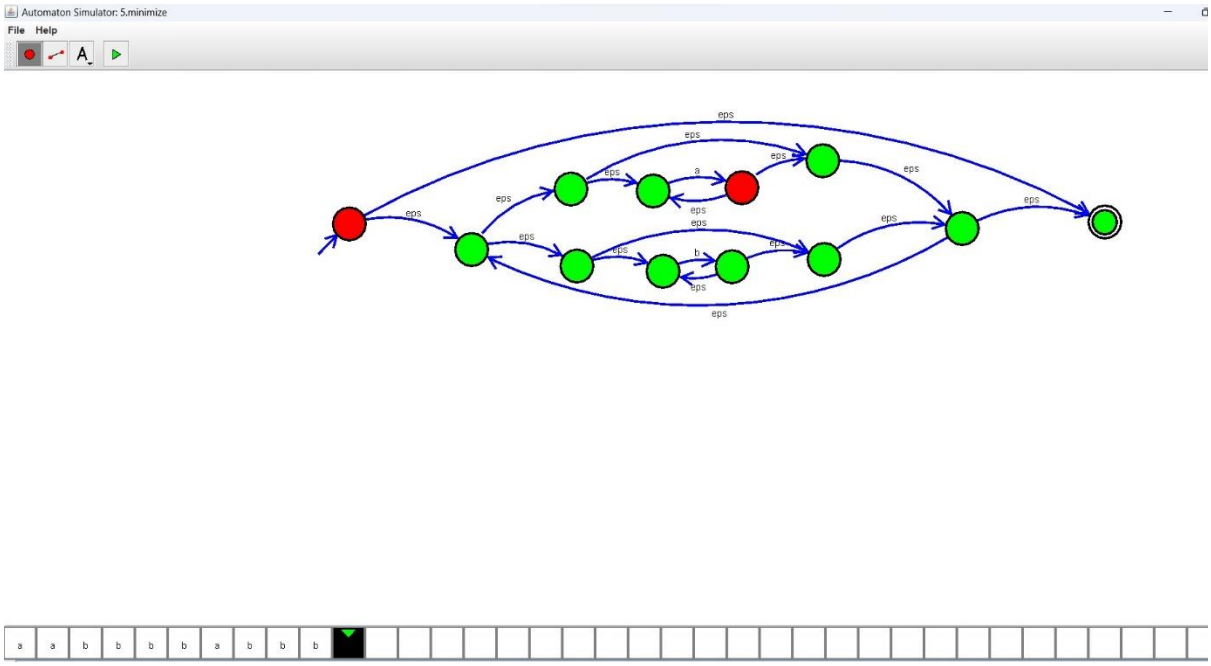


2.2 **Identify the language defined by the r.e**:
(0+1)*

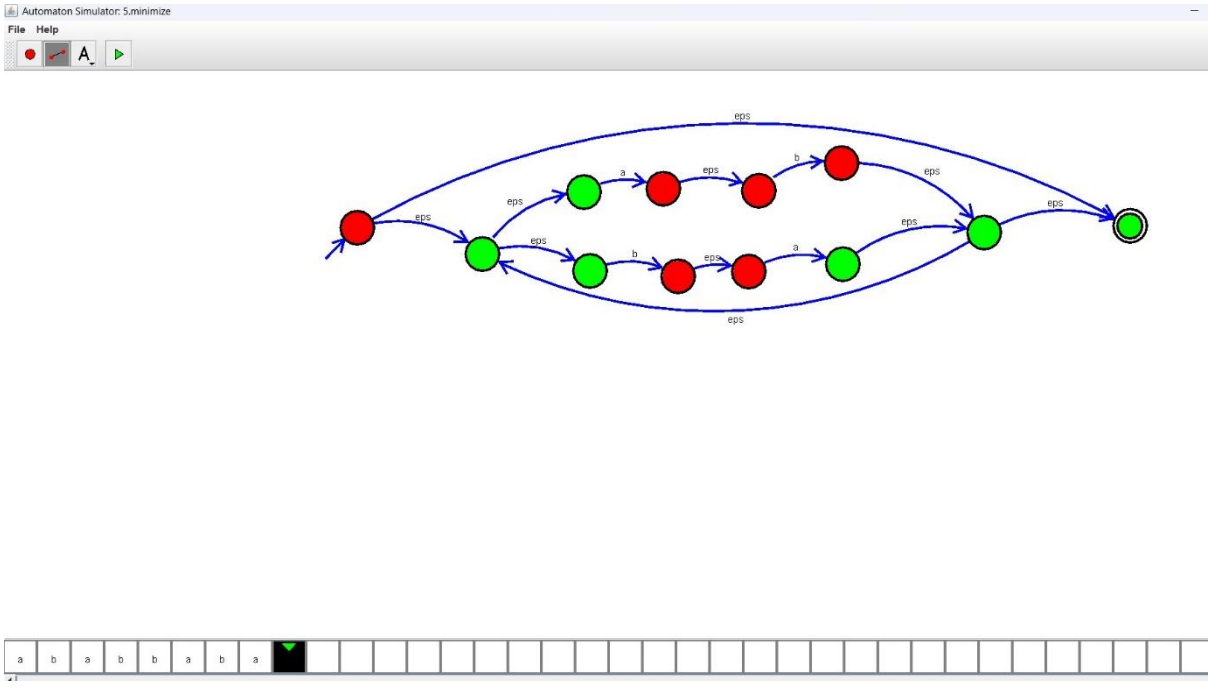


3.Construct NFA with ε-moves equivalent to the regular expressions given below:

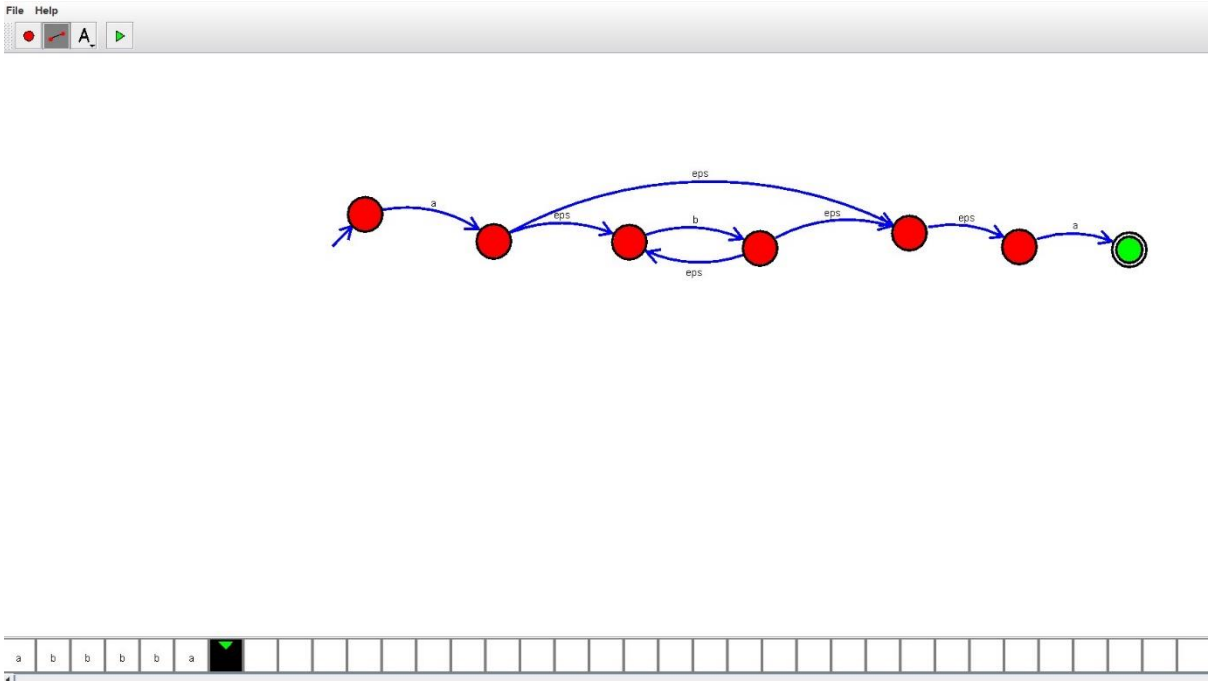
i) (a*+b*)*



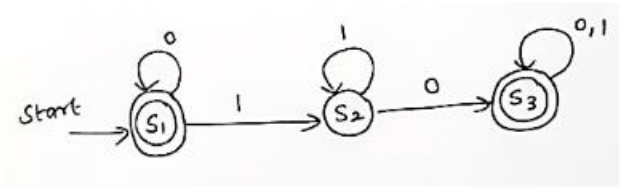
ii) (01 + 10)*



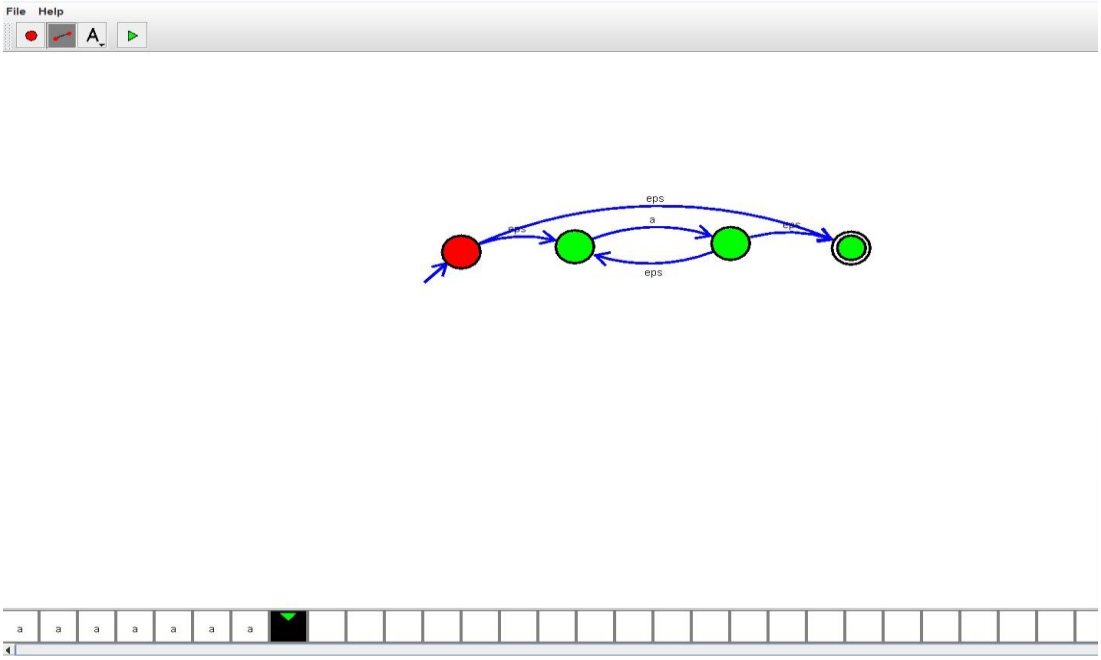
iii) ab*a



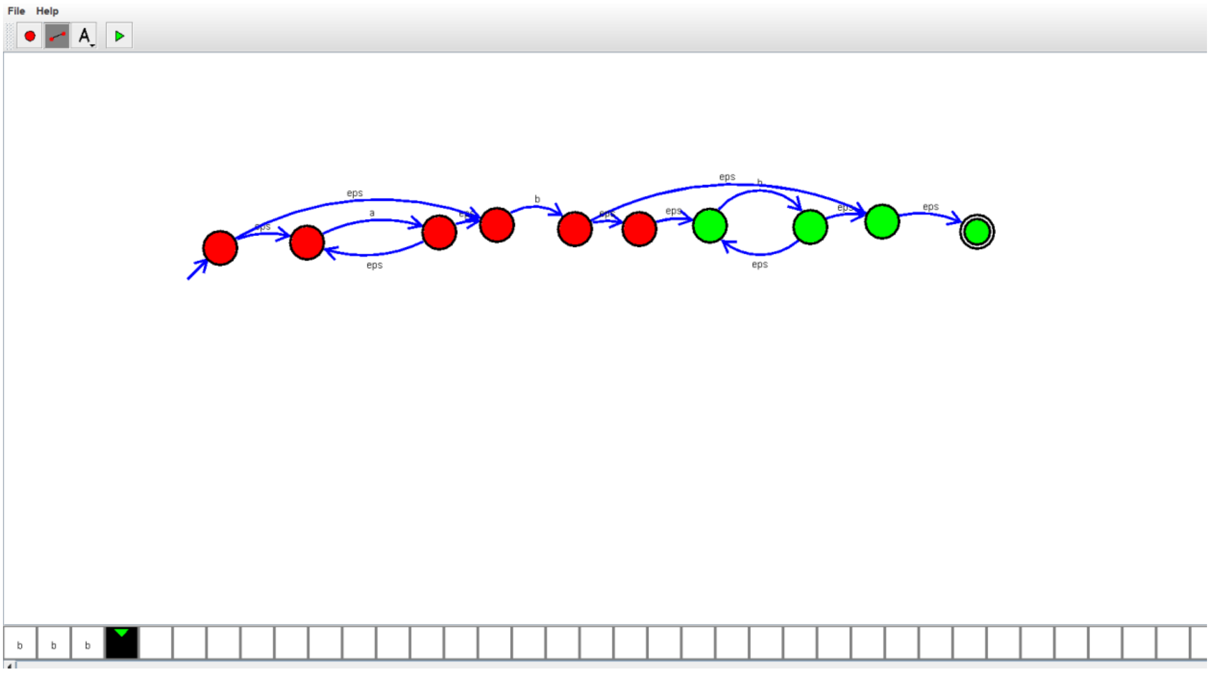
4. Construct r.e. from the DFA given below:



S1: a*



S2:a*bb*



S3: a*bb*a(a+b)*