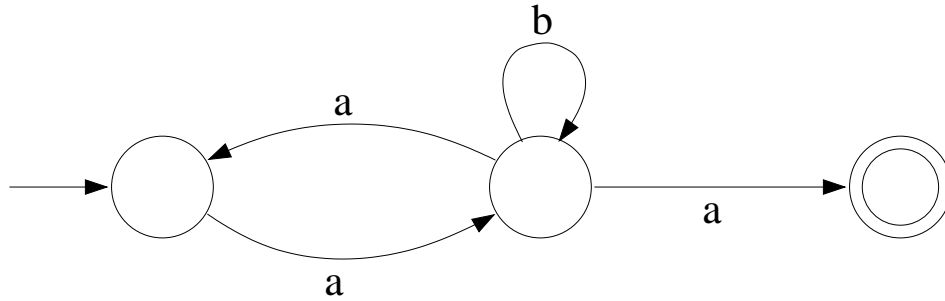


Due in class on Thursday, October 19th, 2006

1. Describe in English the language of the following N DFA.



2. Write the regular expression for the previous N DFA.
3. Using subset construction, convert the N DFA to a DFA.
4. Describe in English the language of the following regular expression.

$$(ab)^*(ba)^*|ab^*$$

5. Using the construction provided in class (Thompson's construction), convert the previous regular expression into an N DFA with epsilon transitions.
6. Draw a *deterministic* finite automaton with four states that recognizes the strings containing *a*'s and *b*'s where the number of times *ab* appears is even.