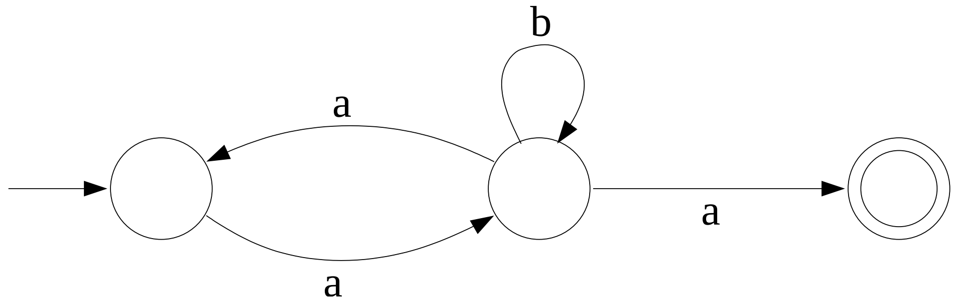
CSC 173
Homework 3
12th October, 2006
**Due in class on Thursday, October 19th, 2006**

1. Describe in English the language of the following NDFA.




2. Write the regular expression for the previous NDFA.
3. Using subset construction, convert the NDFA 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 NDFA 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.