

CS390 Test

March 2010

1. For the language represented by the regular expression $(a^*ba^*)^*$ answer the following questions: [3 points each]

(a) List up all the strings of length 2 belonging to the language.

ab, ba, bb

(b) What is the second shortest string NOT belonging to the language?

aa

(c) What is the second shortest string belonging to the language?

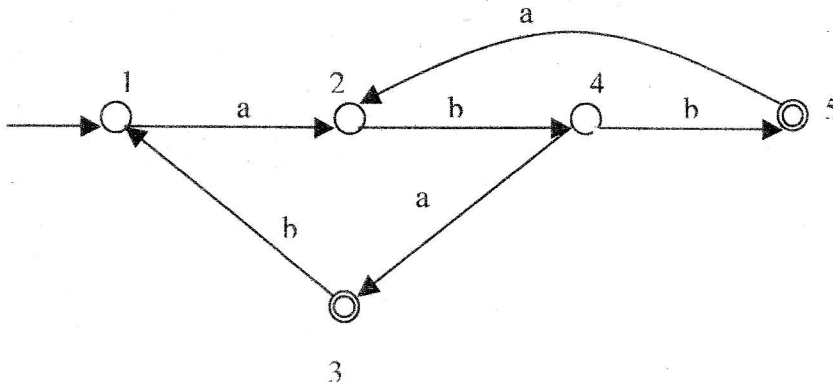
b

(d) Describe in simple English the kind of strings of the language

1 or more strings that have at least one b

2. Find a regular expression for the language accepted by the following NFA: [14 points]

See web notes "Language Accepted by DFA" for explanation



$a(bba + baba)^*(bb + ba)$

also $a^2(bab + abaa)^*(b + a)$