

- Write regular expressions for the following languages:
  - Strings over the alphabet  $\{a, b, c\}$  with an odd number of  $bs$ .
  - Strings over the alphabet  $\{a, b, c\}$  where the first  $c$  precedes any occurrence of  $a$ .
  - Strings over the alphabet  $\{0, 1\}$  that represent odd binary integers.
- (a)-(c) Draw the finite state machines (NFAs) for the languages in 1(a)-(c).
- Draw the NFA for  $a((b|a^*c)x)^*|x^*a$ .
- Convert the following NFA to a DFA:

