张晨阳-第4次作业

1. 可被接受的所有长度为 3 的串共有 23 个：
   aac, abb, abc, aca, acb, acc
   bab, bac, bba, bbb, bbc, bca, bcb, bcc,
   caa, cab, cac, cba, cbb, cbc, cca, ccb, ccc
2. $\varepsilon - NFA：\ M = (\{p, q, r\}, \{a, b, c\}, \delta, p, r)$
   因为 $\varepsilon - closure(p) = \{p\}$
   则设不含 ε 的 $NFA : M_1 = (\{p, q, r\}, \{a, b, c\}, \delta_1, p, r)$
   $\delta 1(p, a) = \delta'(p, a) = \varepsilon - closure(\delta(\delta'(p, \varepsilon), a)) = \{p\}$
   $\delta_1(p, b) = \delta'(p, b) = \varepsilon - closure(\delta(\delta'(p, \varepsilon), b)) = \{p, q\}$
   $\delta_1(p, c) = \delta'(p, c) = \varepsilon - closure(\delta(\delta'(p, \varepsilon), c)) = \{p, q, r\}$
   $\delta_1(q, a) = \delta'(q, a) = \varepsilon - closure(\delta(\delta'(q, \varepsilon), a)) = \{p, q\}$
   $\delta_1(q, b) = \delta'(q, b) = \varepsilon - closure(\delta(\delta'(q, \varepsilon), b)) = \{p, q, r\}$
   $\delta_1(q, c) = \delta'(q, c) = \varepsilon - closure(\delta(\delta'(q, \varepsilon), c)) = \{p, q, r\}$
   $\delta_1(r, a) = \delta'(r, a) = \varepsilon - closure(\delta(\delta'(r, \varepsilon), a)) = \{p, q, r\}$
   $\delta_1(r, b) = \delta'(r, b) = \varepsilon - closure(\delta(\delta'(r, \varepsilon), b)) = \{p, q, r\}$
   $\delta_1(r, c) = \delta'(r, c) = \varepsilon - closure(\delta(\delta'(r, \varepsilon), c)) = \{p, q, r\}$
   状态转移图如下：