

# Q3 for 9825413

Covert (NFA to DFA):

$$N = (Q, \Sigma, \delta, q_1, F),$$

$$Q = \{q_1, q_2, q_3, q_4\},$$

$$\Sigma = \{y, x\}, F = \{q_4\},$$

$$\delta(q_1, y) = \{q_1, q_2\}, \delta(q_1, x) = \{q_1\}, \delta(q_1, \varepsilon) = \emptyset,$$

$$\delta(q_2, y) = \{q_3\}, \delta(q_2, x) = \emptyset, \delta(q_2, \varepsilon) = \emptyset.$$

$$\delta(q_3, y) = \emptyset, \delta(q_3, x) = \{q_4\}, \delta(q_3, \varepsilon) = \{q_4\}.$$

$$\delta(q_4, y) = \{q_4\}, \delta(q_4, x) = \{q_4\}, \delta(q_4, \varepsilon) = \emptyset.$$