

1.

$\delta((r_1, r_2), x) = (\delta_1(r_1, x), \delta_2(r_2, x)) \mid r_1 \text{ is within } Q_1, r_2 \text{ is within } Q_2, x \text{ is with Sigma}$

$q_0 = (q_1, q_2)$

$F = (Q_1 \times (Q_2 \setminus F_2)) \cup (F_1 \times Q_2)$

2.

a) REJECT

b) ACCEPT

c) ACCEPT

d) REJECT

e) REJECT

3.

a) N'_c

b) q_1

c) $\{q_1\}$

d) abb

e) aa

f) q_0

g) $\{q_{\text{new}}\}$

h) aaa

i) ab