Example

$Q = \{q_1, q_2\}$
start state q_1
$F = \{q_2\}$.
$\delta(q_1, 0) = q_1$
$\delta(q_1, 1) = q_2$
$\delta(q_2, 0) = q_2$
$\delta(q_2, 1) = q_2$

$R^0_{11} = \epsilon + 0$
$R^0_{12} = 1$
$R^0_{21} = \emptyset$
$R^0_{22} = \epsilon + 0 + 1$

$R_{11}^1 = R_{11}^0 + R_{11}^0 (R_{11}^0)^* R_{11}^0 = (\epsilon + 0) + (\epsilon + 0)(\epsilon + 0)^* (\epsilon + 0) =$
$(\epsilon + 0)^+ = 0^*$
$R_{12}^1 = R_{12}^0 + R_{11}^0 (R_{11}^0)^* R_{12}^0 = 1 + (\epsilon + 0)(\epsilon + 0)^* 1 = 0^* 1$
$R_{21}^1 = R_{21}^0 + R_{21}^0 (R_{11}^0)^* R_{11}^0 = \emptyset + \emptyset(\epsilon + 0)^* (\epsilon + 0) = \emptyset$
$R_{22}^1 = R_{22}^0 + R_{21}^0 (R_{11}^0)^* R_{12}^0 = (\epsilon + 0 + 1) + \emptyset(\epsilon + 0)^* 1 = \epsilon + 0 + 1.$

$R_{11}^2 = R_{11}^1 + R_{12}^1 (R_{22}^1)^* R_{21}^1 = 0^* + 0^* 1(\epsilon + 0 + 1)^* \emptyset = 0^*$
$R_{12}^2 = R_{12}^1 + R_{12}^1 (R_{22}^1)^* R_{22}^1 = 0^* 1 + 0^* 1(\epsilon + 0 + 1)^* (\epsilon + 0 + 1) =$
$0^* 1 + 0^* 1(0 + 1)^* = 0^* 1(0 + 1)^*.$
$R_{21}^2 = R_{21}^1 + R_{22}^1 (R_{22}^1)^* R_{21}^1 = \emptyset + (\epsilon + 0 + 1)(\epsilon + 0 + 1)^* \emptyset = \emptyset$
$R_{22}^2 = R_{22}^1 + R_{22}^1 (R_{22}^1)^* R_{22}^1 =$
$(\epsilon + 0 + 1) + (\epsilon + 0 + 1)(\epsilon + 0 + 1)^* (\epsilon + 0 + 1) = (0 + 1)^*.$