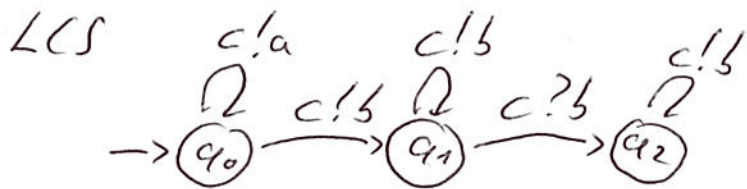


Consider



Let

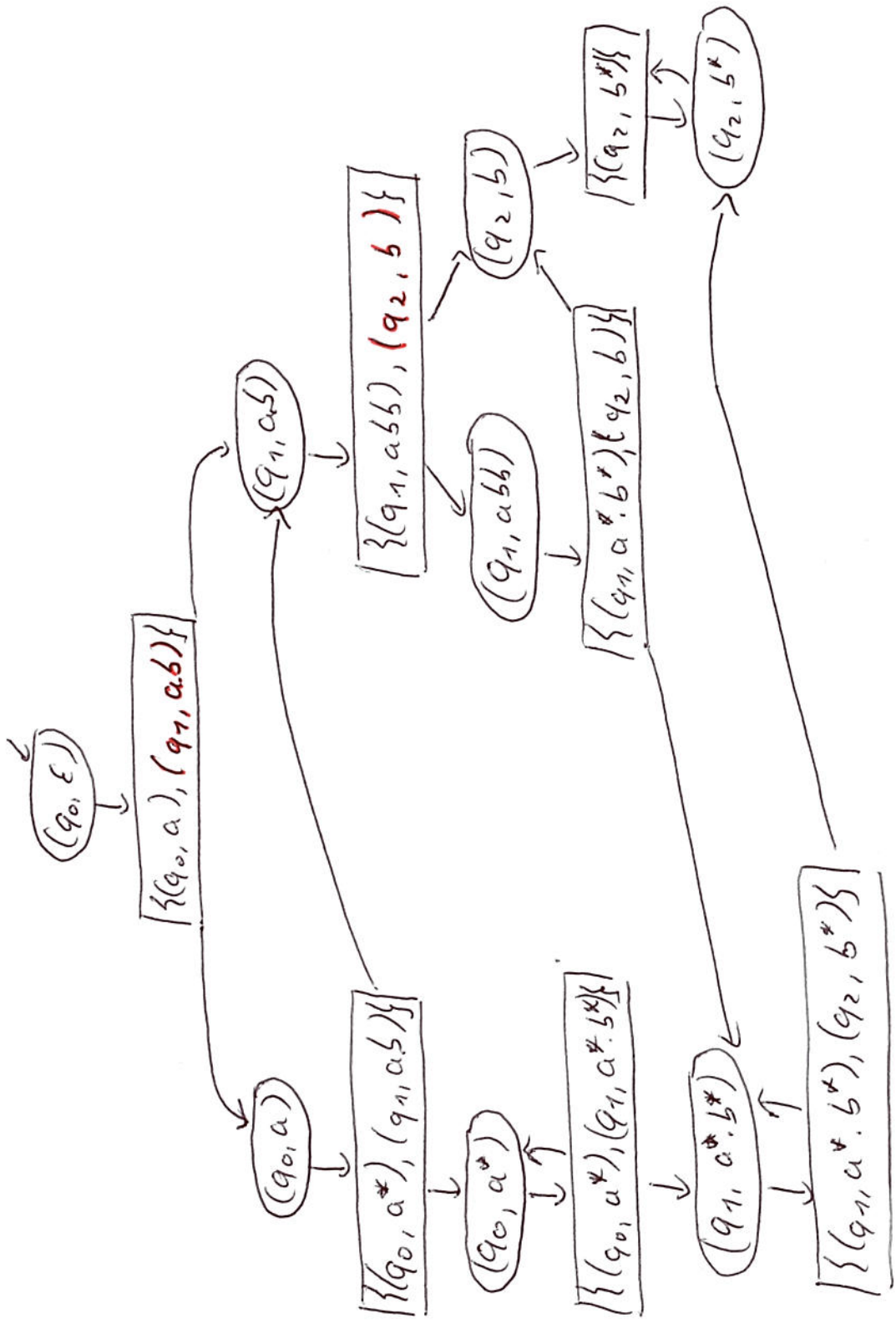
$$T = \{(q_0, \varepsilon), (q_0, a), (q_1, ab), (q_1, abb), (q_2, b)\}$$

$$L = \{T\} \cup \{(q_0, a^*), (q_1, a^*b^*), (q_2, b^*)\} \\ \cup \{(q_i, (a+b)^*) \mid i \in \{0, 1, 2\}\}$$

Compute

$$\text{Ouv}(LCS, T, L).$$

See Exercise 11, Problem 3



The red configurations appear counterintuitive.

The reason that we can choose (q_1, a) to represent (q_1, b) is the definition of the representation function (Definition adequate domain of limits, lecture 01.12.2011, condition L_1):

$$r(c) = \{c\} \downarrow \text{ for a concrete configuration.}$$

Hence,

$$r((q_1, a, b)) = \{(q_1, \varepsilon), (q_1, a), (q_1, b), (q_1, ab)\}$$

Similarly,

$$r((q_2, b)) = \{(q_2, \varepsilon), (q_2, b)\}.$$

Hope this clarifies your questions.