

Cyber Physical Systems - Discrete Models

Exercise Sheet 4 Solution

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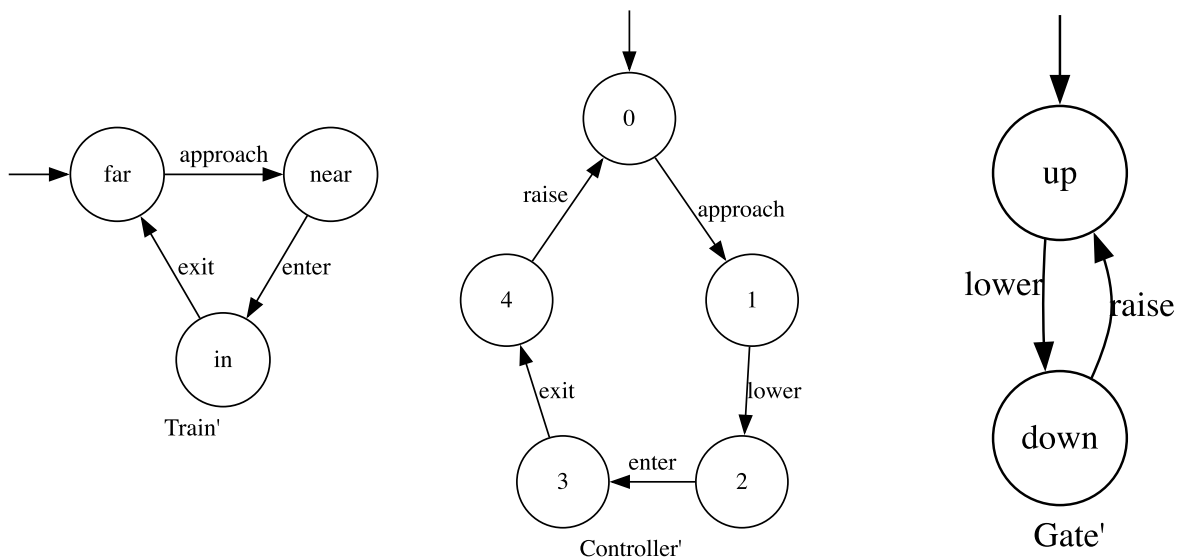
November 12, 2023

Exercise 1: Railroad Crossing

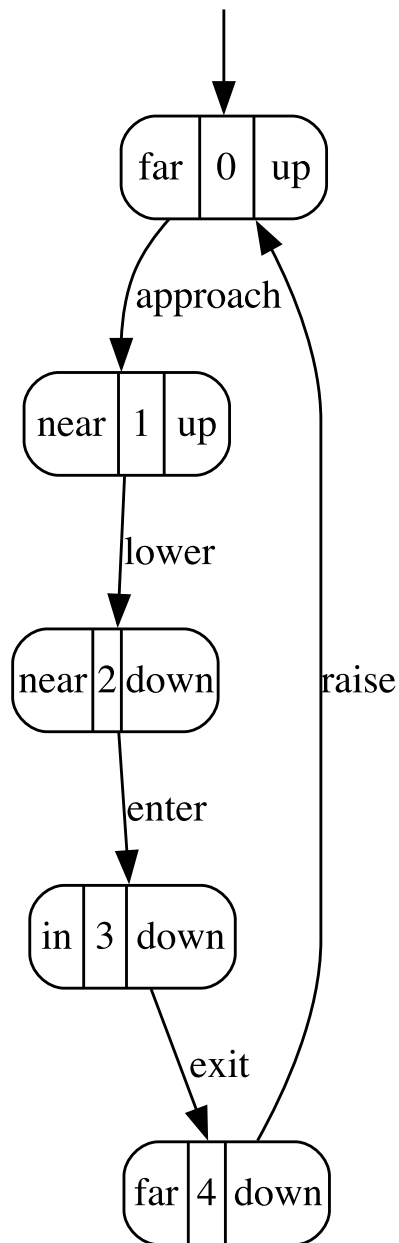
A

Because train's *enter* action and gate's *lower* action are not synchronized, the model allows to train to enter before the gate is lowered.

B

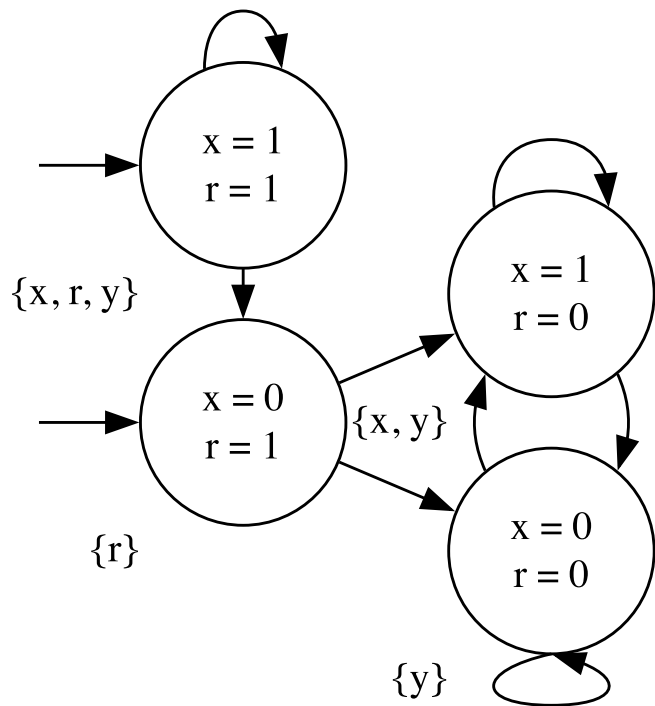


C



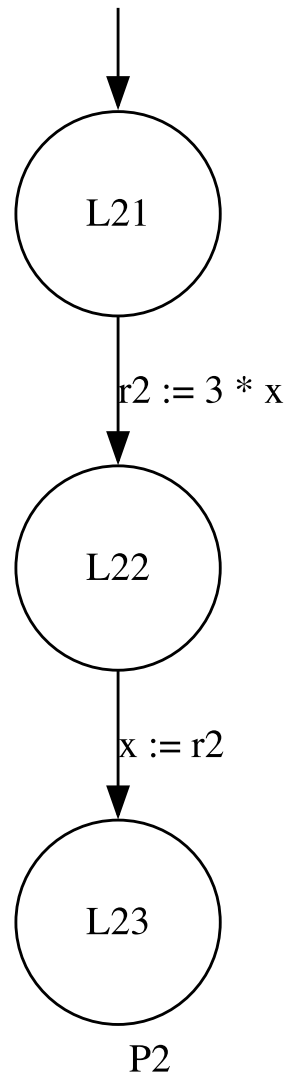
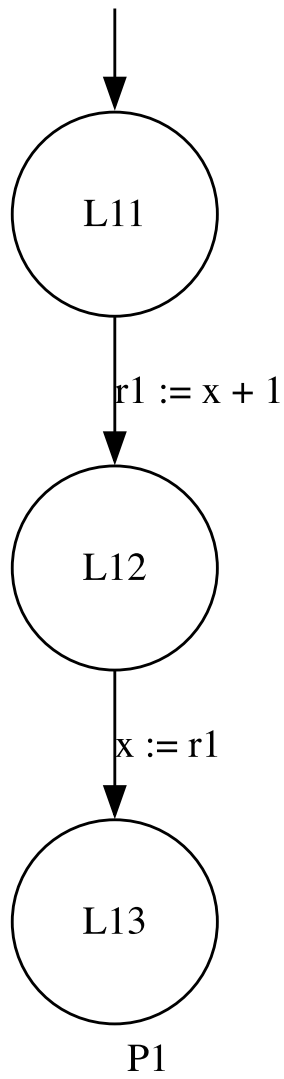
Train' || Controller' || Gate'

Exercise 2: Hardware Circuit and Transition System

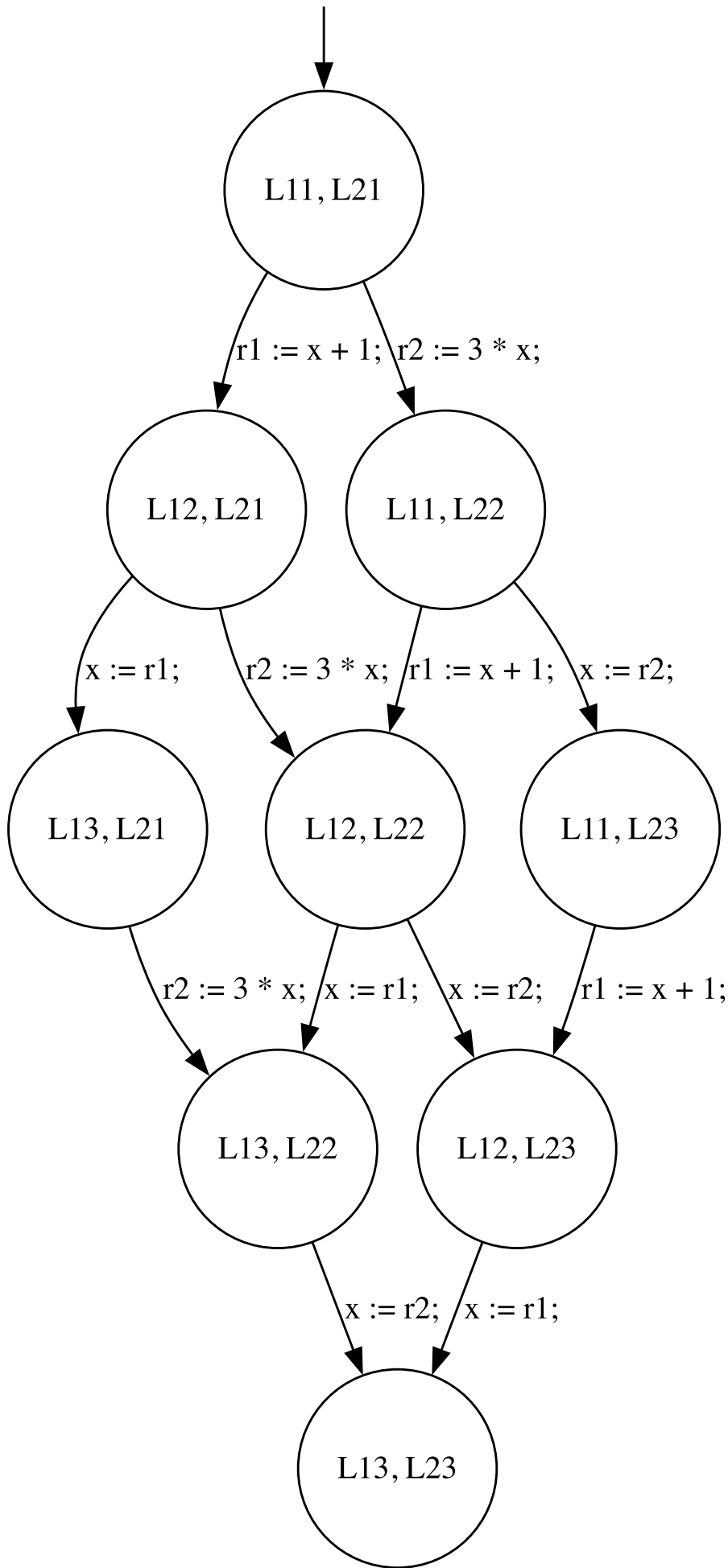


Exercise 3: Paralellism - Interleaving

Part A

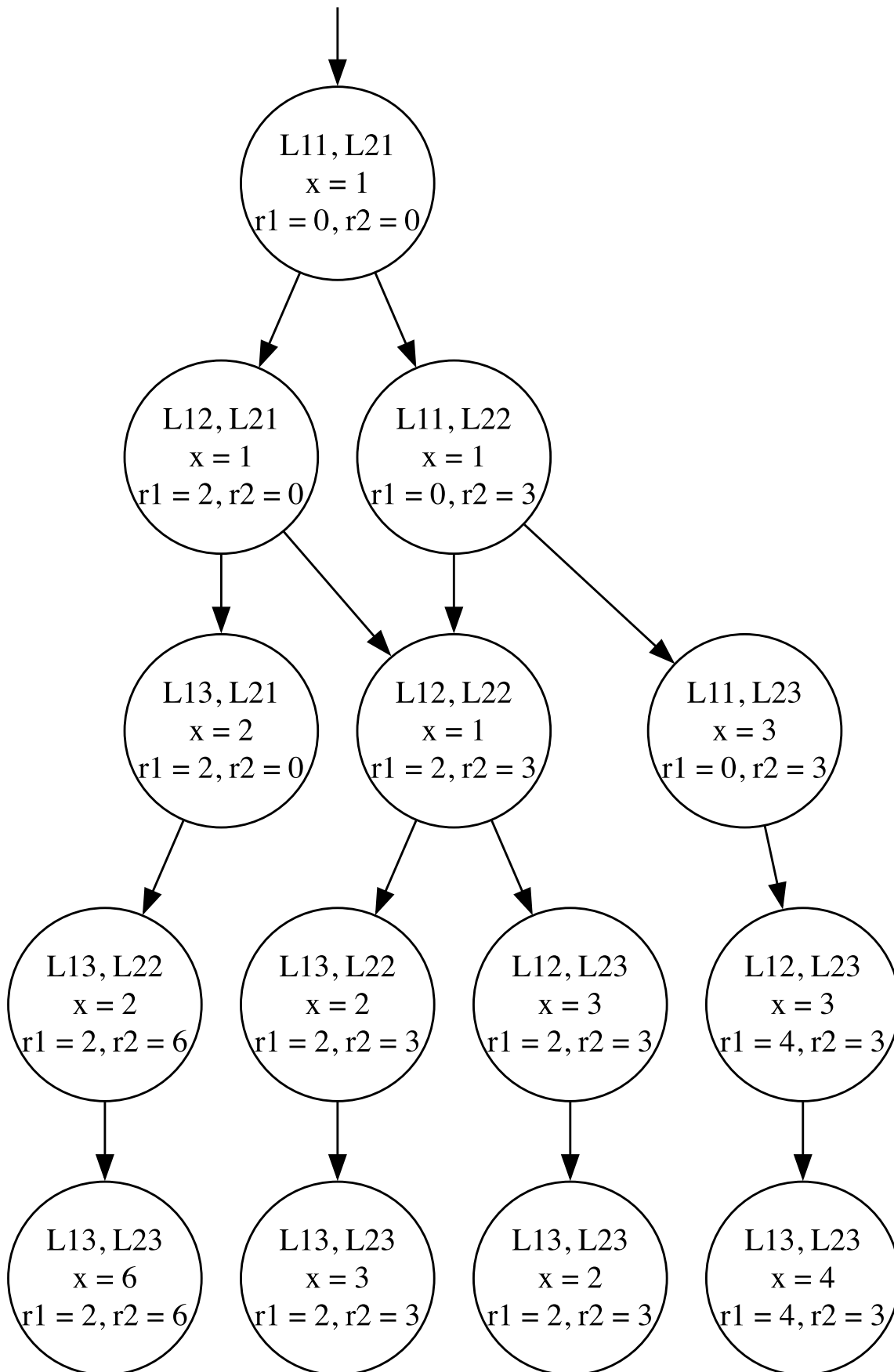


Part B



P1 ||| P2

Part C



T(P1 ||| P2)