

Question: State which rule will enable which transition(s) in Fig. 1.4, and draw the four nets that will result from the four nets shown in Fig. 1.4 by the complementary-place transformation.

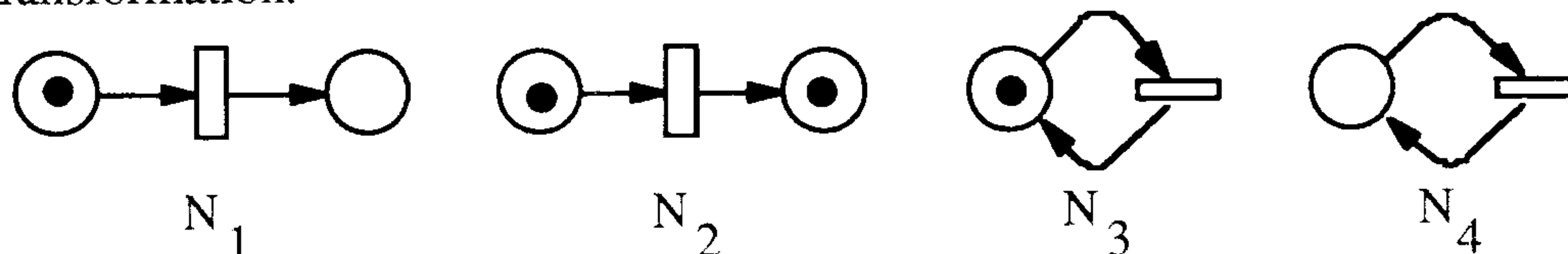


Fig. 1.4 Exercise 1.1: Nets before the complementary-place transformations

Answer: Rule E1 enables t in only N_1 . Rule E2 enables t in N_1 and N_3 . Rule E3 enables t in N_1 and N_4 . Rule E4 enables t in N_1 , N_3 and N_4 . The complementary-place transformation transforms the four nets in Fig. 1.4 into those shown in Fig. 1.5. Note that the weak transition rule enables t in only N_1' in Fig. 1.5, as the strict transition rule (E1) enables t in only N_1 .

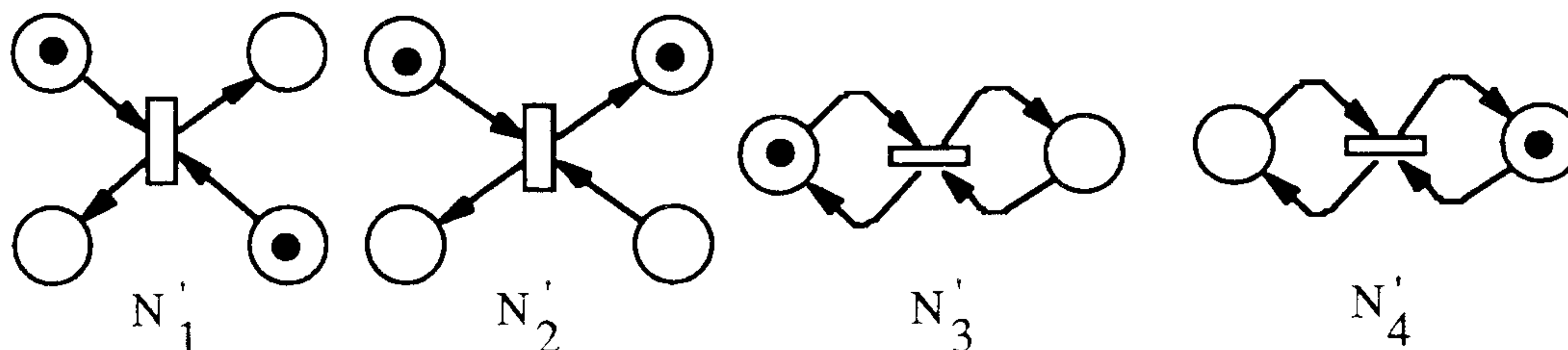


Fig. 1.5 Exercise 1.1: Nets after the complementary-place transformations

Note that a transition t in an infinite capacity net is enabled if and only if (1-1) holds, whereas a transition t in a finite capacity net is enabled if and only if (1-1) and (1-3) hold.

1. 4 Problems

Prob.1.1. Table 1 lists some typical interpretations of a transition, and its input and output places of a Petri net. Add three more examples of your own to the table.