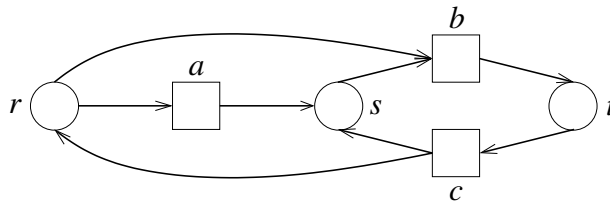


Formal Models SS 2012: Assignment 7

Institute for Formal Models and Verification, JKU Linz

Due 10.05.2012

Exercise 25



Given CEN N as shown above.

- Specify N formally as 4-tupel $N = (C, I, E, G)$ including all of its components.
- How many different markings are possible in N *theoretically*?
- For *each* possible marking m of N , determine the set of *all* events which can fire in m .
- Given marking $\{r, s\}$, what is the marking obtained when event b fires?
- Given marking $\{t\}$, what is the marking obtained when event c fires?

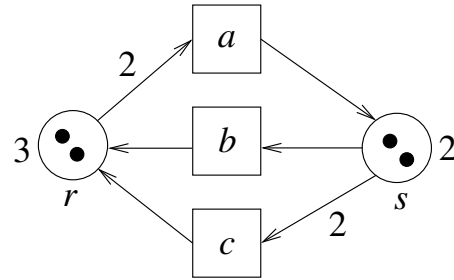
Exercise 26

Draw the LTS for the CEN as given on lecture slide 39.

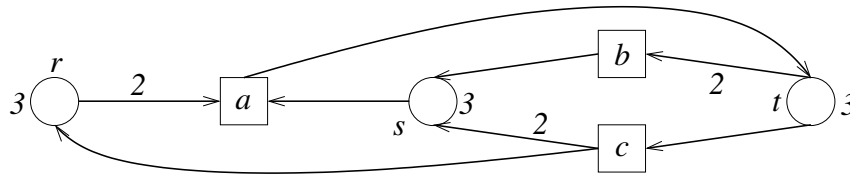
Exercise 27

Given PTN N as shown on the right. Justify your answers to the following questions.

- Specify N formally as 5-tuple $N = (P, I, T, G, C)$ including all of its components.
- How many different markings are possible in N *theoretically*?
- Is there a marking M for N such that all transitions are enabled?



Exercise 28



Given PTN N as shown above. Justify your answers to the following questions.

- How many different markings are possible in N *theoretically*?
- Given markings $M_1 = \{(r, 1), (s, 3), (t, 1)\}$, $M_2 = \{(r, 1), (s, 2), (t, 1)\}$, $M_3 = \{(r, 2), (s, 2), (t, 1)\}$ and $M_4 = \{(r, 2), (s, 1), (t, 1)\}$. Determine the set of all transitions which are enabled in M_1 , M_2 , M_3 and M_4 , respectively.
- Given marking $M = \{(r, 2), (s, 1), (t, 2)\}$. For all transitions t enabled in M , determine marking M' obtained from firing t in M .