Exercise 41
Given the following Place Transition Net $N$:

![Place Transition Net Image]

a) Draw the LTS corresponding to $N$.

b) Can a deadlock be reached in $N$? Justify your answer.

Exercise 42
Let $P, Q$ and $R$ be PA systems with $P = a.(c.P + d.P)$, $Q = d.c.f.Q$ and $R = e.c.f.R$. Draw the LTS for $P \parallel Q \parallel R$. 
Exercise 43 Given Kripke structure $K$ below. Formulate the transition function as propositional formula.

Exercise 44

- Formulate (a) two steps, (b) three steps done in $K$ with the previously identified propositional formula.

- Formulate that state $\bar{x}\bar{y}$ is not reachable after one step in propositional logic (from the initial state). Use limboole to evaluate your encoding.

- Now show that $\bar{x}\bar{y}$ is reachable after two steps.