Exercise 21
Draw the LTS for the incorrect version of Milner’s Scheduler (lecture slide 32) for $n = 2$.

Exercise 22
Draw the LTS for the correct version of Milner’s Scheduler (lecture slide 33) for $n = 2$.

Exercise 23
Let $A = \text{coin.}(\text{tea}.A + \text{coin.coffee}.A)$ and $B = \text{coin.tea}.B + \text{coin.coin.coffee}.B$ be PA-Terms modelling two versions of a simple beverage vending machine. Justify your answers in the following.

a) Draw the LTS for $A$ and $B$.

b) Interpret $A$ and $B$ as finite automata $A_{FA}$ and $B_{FA}$, assuming that the initial state is the only final state. Is $L(A_{FA}) = L(B_{FA})$?

c) Does the behaviour of $A$ and $B$ differ from the perspective of a user when buying a drink?

Exercise 24
Demonstrate that PA-operator $+$ is associative: given $P_1 = (Q + R) + S$ and $P_2 = Q + (R + S)$, show that $P_1 \xrightarrow{a} P'_1$ if, and only if $P_2 \xrightarrow{a} P'_2$ by applying the semantical rules of $+$. 