

## Example exercise 2

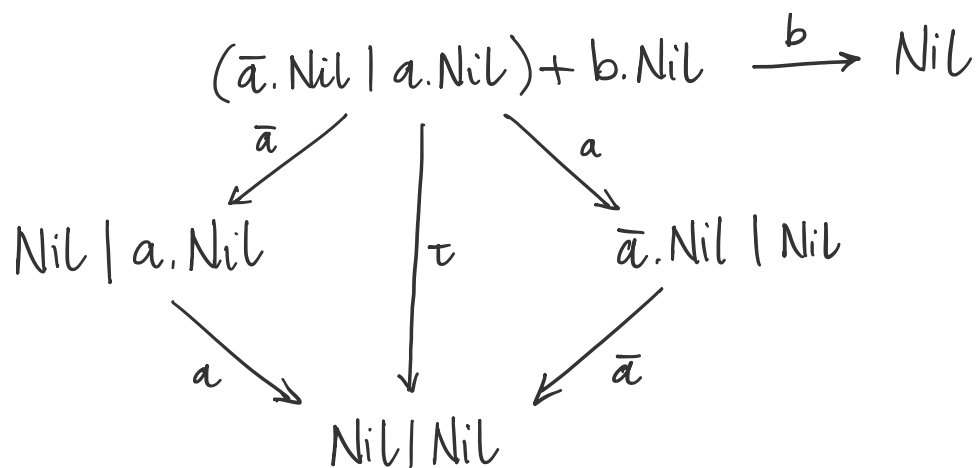
Tuesday, 28 April 2020

15.32

Draw the LTS generated by the following CCS expression:

$$(\bar{a}.Nil \mid a.Nil) + b.Nil$$

**Solution:**



Each of the transitions above can be proven by a derivation from the SOS rules for CCS expressions.

For example:

$$\begin{array}{c}
 \text{(ACT)} \frac{}{\bar{a}.Nil \xrightarrow{\bar{a}} Nil} \qquad \frac{}{a.Nil \xrightarrow{a} Nil} \text{(ACT)} \\
 \text{(COM}_3\text{)} \frac{}{\bar{a}.Nil \mid a.Nil \xrightarrow{\tau} Nil \mid Nil} \\
 \text{(SUM}_1\text{)} \frac{}{(\bar{a}.Nil \mid a.Nil) + b.Nil \xrightarrow{\tau} Nil \mid Nil}
 \end{array}$$