Notice
The solutions to Exercise 3 and 5 from Exercise Sheet 11 will be discussed during this week’s tutorial session.

Exercise 1
For a tree $t$ over the alphabet $\Sigma = \{a, b\}$ let $t(1)$ and $t(2)$ denote the subtrees of $t$ that are rooted in the nodes 1 and 2, respectively (provided that they exist). Let $L \neq$ be the language of all trees $t$ where $t(1)$ and $t(2)$ exist and $t(1) \neq t(2)$.

$$
\begin{array}{c}
\epsilon \\
t(1) \\
t(2)
\end{array}
$$

Give a 2-TWA (without pebbles) that accepts $L \neq$.

Exercise 2
Let $L$ be the language of all trees over $\Sigma = \{a, b\}$ such that
- no internal node is labelled with $a$, and
- every path to an $a$-labelled leaf contains an even number of branching nodes.

Give a 1-TWA with one pebble, that accepts $\overline{L}$. 