$$L((a \cdot (b \vee c^+) \cdot a)^+)$$

$$L(w \mid w \text{ has equal number of } a's) = L((b^* \cdot a \cdot b^* \cdot a \cdot b^*)^*)$$

$$L(a^n a^n) = L(a^{2n}) = L((a \cdot a)^*)$$

$$L(a^n b^n)$$

$$L(a^n b^n)$$

$$L(ww \mid w \in \Sigma^*, |\Sigma| > 1)$$

$$L(ww \mid w \in \Sigma^*, |\Sigma| > 1) = L(x\{(a \vee b)^*\} \cdot \&x)$$

$$(a \cdot (b \vee c^+) \cdot a)^+$$

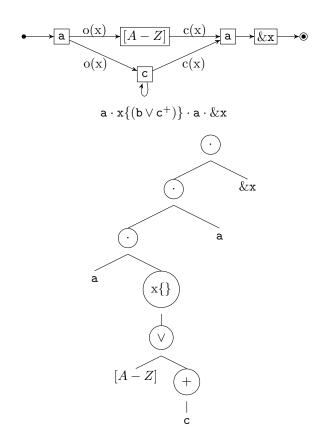
$$(a \cdot x\{(b \vee c^+)\} \cdot a)^+$$

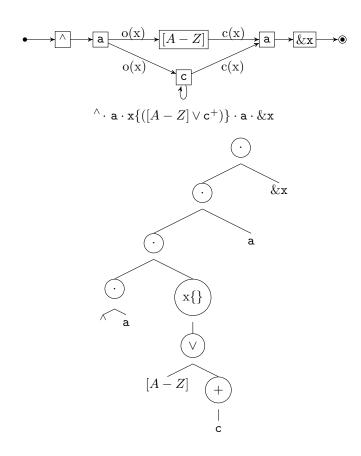
$$(a \cdot x\{(b \vee c^+)\} \cdot a)^+$$

$$(a \cdot x\{(b \vee c^+)\} \cdot a) \cdot (1 \cdot \&x \cdot a \cdot x\{(b \vee c^+)\} \cdot a)^*$$

$$(a \cdot x\{(b \vee c^+)\} \cdot a) \cdot (1 \cdot \&x \cdot a \cdot x\{(b \vee c^+)\} \cdot a)^*$$

 $(\mathtt{a} \cdot \mathtt{x} \{ (\mathtt{b} \vee \mathtt{c}^+ \vee \epsilon) \} \cdot \mathtt{a}) \cdot (\mathtt{1} \cdot \& \mathtt{x} \cdot \mathtt{a} \cdot \mathtt{x} \{ (\mathtt{b} \vee \mathtt{c}^+ \vee \epsilon) \} \cdot \mathtt{a})^*$ 





 $\bullet \qquad \qquad \boxed{\wedge} \qquad \boxed{ \texttt{a} } \qquad \boxed{ \texttt{a} } \qquad \boxed{\& \mathtt{x}} \qquad \boxed{\bullet}$ 

С

 $^\wedge \cdot \, \mathtt{a} \cdot \mathtt{x} \{ ([A-Z] \vee \mathtt{c}^+) \} \cdot \mathtt{a} \cdot \& \mathtt{x}$ 









$$\bullet \underbrace{o(x)}_{\texttt{a}}\underbrace{c(x)}_{\texttt{o}} \bullet$$

$$x\{\texttt{a}\}$$

$$\begin{array}{c}
o(x) \\
\bullet o(x) \\
\hline
a \\
c(x)
\hline
e \\
x\{a\}^+
\end{array}$$

$$\begin{array}{c}
o(x) \\
\hline
o(x) \\
\hline
c(x)
\end{array}$$

$$r(x)$$

$$x\{a\}^*$$

$$\begin{array}{c|c}
 & c(x) \\
\hline
 & r(x) \\
 & x\{a \lor \epsilon\}
\end{array}$$

