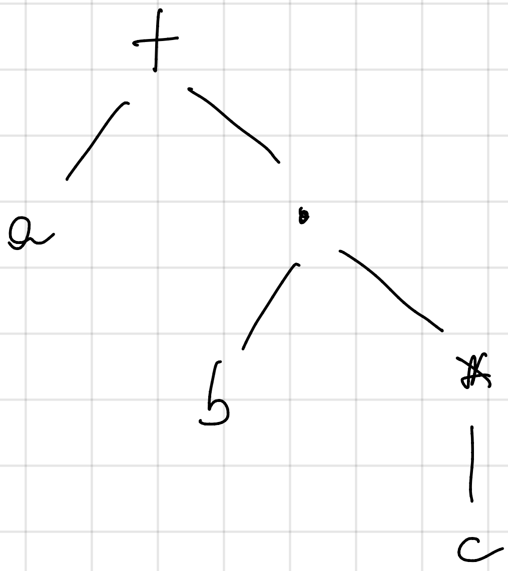
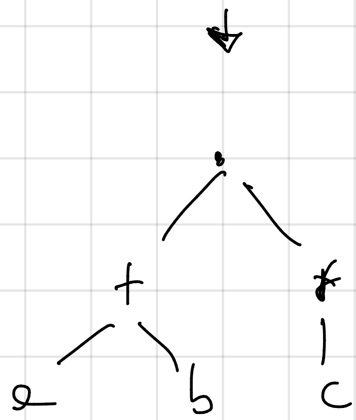
$a + bc^*$

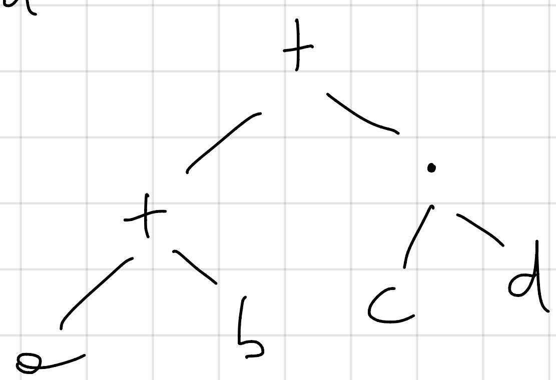
$a + \boxed{b \cdot \boxed{c^*}}$



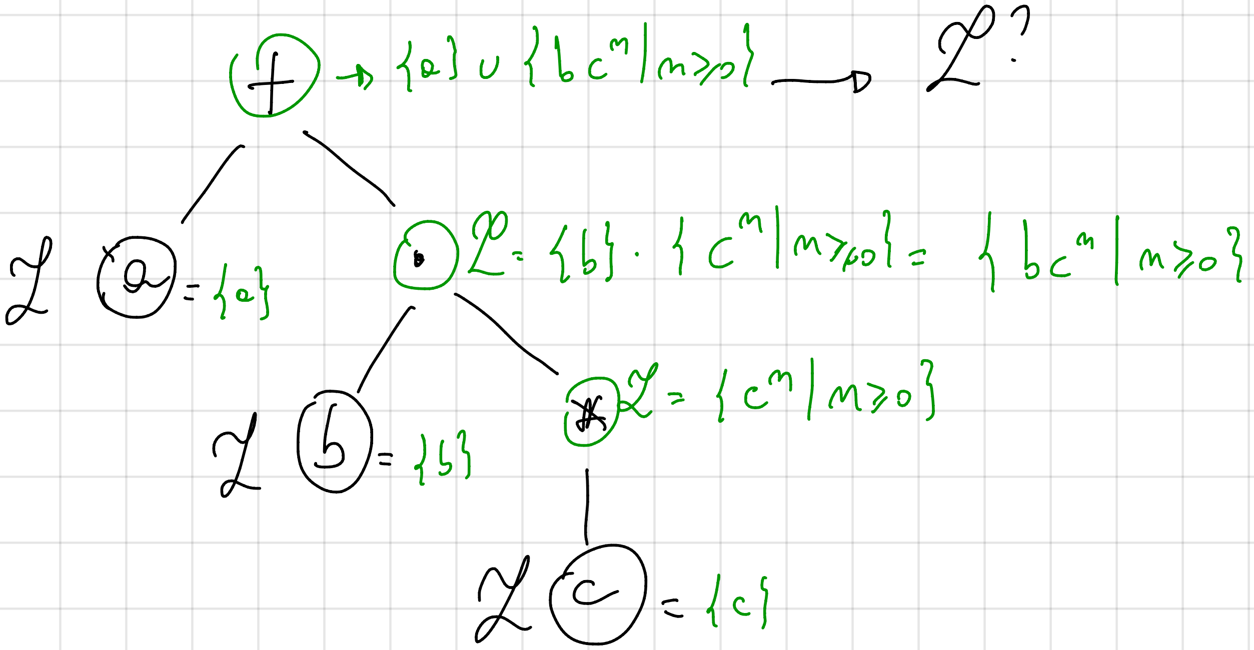
$(a+b)c^*$



$(a + b) + cd$



$\cancel{a + + * c}$



$$\mathcal{L}(c) = \{c\} =$$

$$\mathcal{L}(c^*) = \bigcup_{i\geq 0} \mathcal{L}(c)^i$$

$$\mathcal{L}(c)^0 = \{c\}^0 = \{\varepsilon\}$$

$$\mathcal{L}(c)^1 = \{c\}^1 = \{c\}$$

$$= \{c\} \cdot \{c\}^0 =$$

$$= \{c\} \cdot \{\varepsilon\} =$$

$$= \{c \cdot \varepsilon\} = \{c\}$$

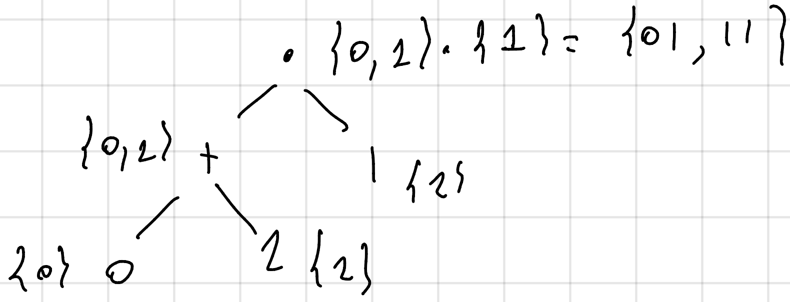
$$\mathcal{L}(c)^2 = \mathcal{L}(c) \cdot \mathcal{L}(c)^1 =$$

$$= \{c\} \cdot \{c\} = \{cc\}$$

$$\mathcal{L}(c)^3 = \mathcal{L}(c) \cdot \mathcal{L}(c)^2 = \{c\} \cdot \{cc\} = \{ccc\}$$

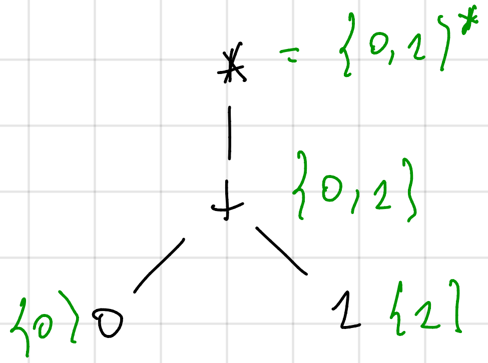
$$\mathcal{L}(c^*) = \{\varepsilon, c, cc, ccc, \ldots\} = \{c^n \mid n \geq 0\}$$

$\mathcal{L}[\![(0+1)1]\!] = \{01, 11\}$



$$0^* + 1^* = \{\varepsilon\} \cup \{0^n \mid n>0\} \cup \{1^n \mid n>0\}$$

$\mathcal{L}((0+1)^*)$



$$\begin{aligned}
\{0,1\}^* = \; & \{0,1\}^0 = \{\varepsilon\} \\
\cup\; & \{0,1\}^1 = \{0,1\} \\
\cup\; & \{0,1\}^2 = \{0,1\}\cdot\{0,1\} = \{00,01,10,11\} \\
\cup\; & \{0,1\}^3 = \{0,1\}\cdot\{00,01,10,11\} = \{000,001,010,011,100,101,110,111\} \\
\cup\; & \{0,1\}^4 = \ldots \\
& \vdots
\end{aligned}$$

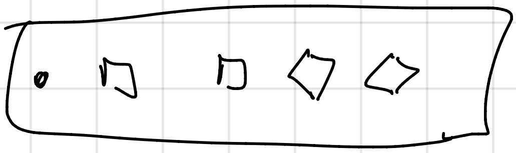
$$\{01, a, \sim\}^* = \{\varepsilon, 01, a, \sim, 01a, a01, \sim a, a\sim, 01\sim, \sim 01, \ldots$$

$(\{01, a\}^* + \{c, dc\}^*)^* =$

$\{\varepsilon, 0101a, 0101acdc0101a,$

$((L)^*)^* =$

L



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lowercase letters containing a e i o u in order

$\xrightarrow{\text{order}}$

$(a + e + i + o + u)^* = uoiea$

$lc \to b|c|d|f|\dots|z$

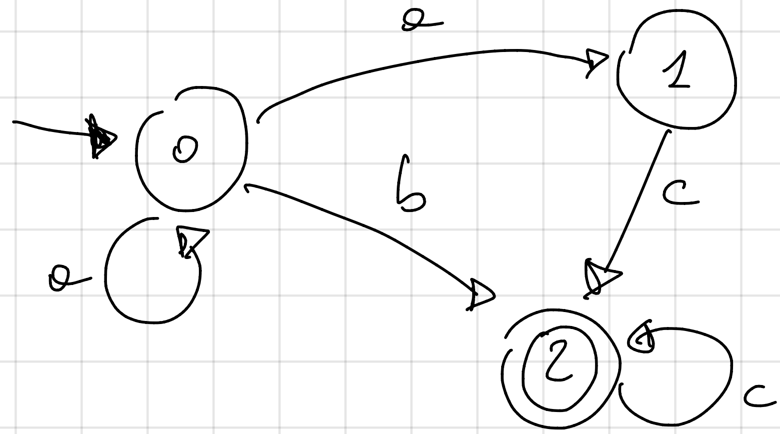
$p1 \to lc^* a\, lc^* e\, lc^* i\, lc^* o\, lc^* u\, lc^*$

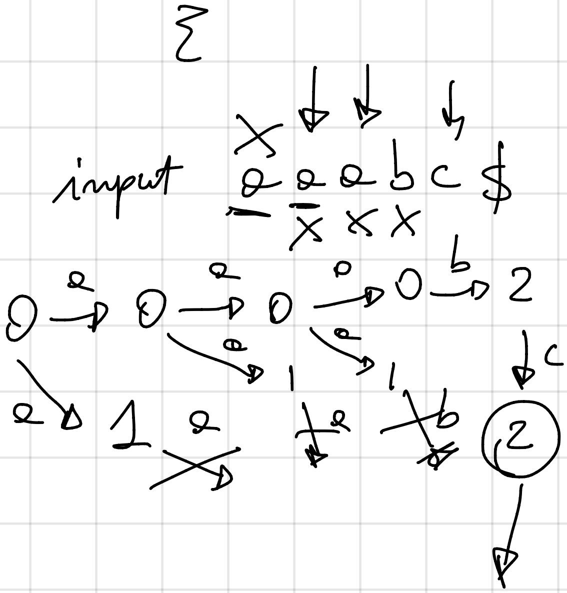
$p1' \to lc^* (a\, lc^*)^* (e\, lc^*)^* (i\, lc^*)^* \dots$

---

all strings of digits with no repeated digits

ex. 10, 2340, 351, 0, ...





accept

$0 \xrightarrow{a} 0 \xrightarrow{a} 1 \xrightarrow{c} 2$ generates aac

$\downarrow c$

2 aacc