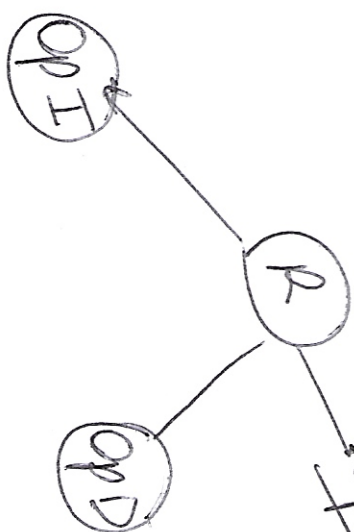
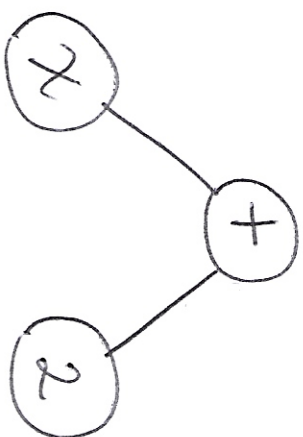


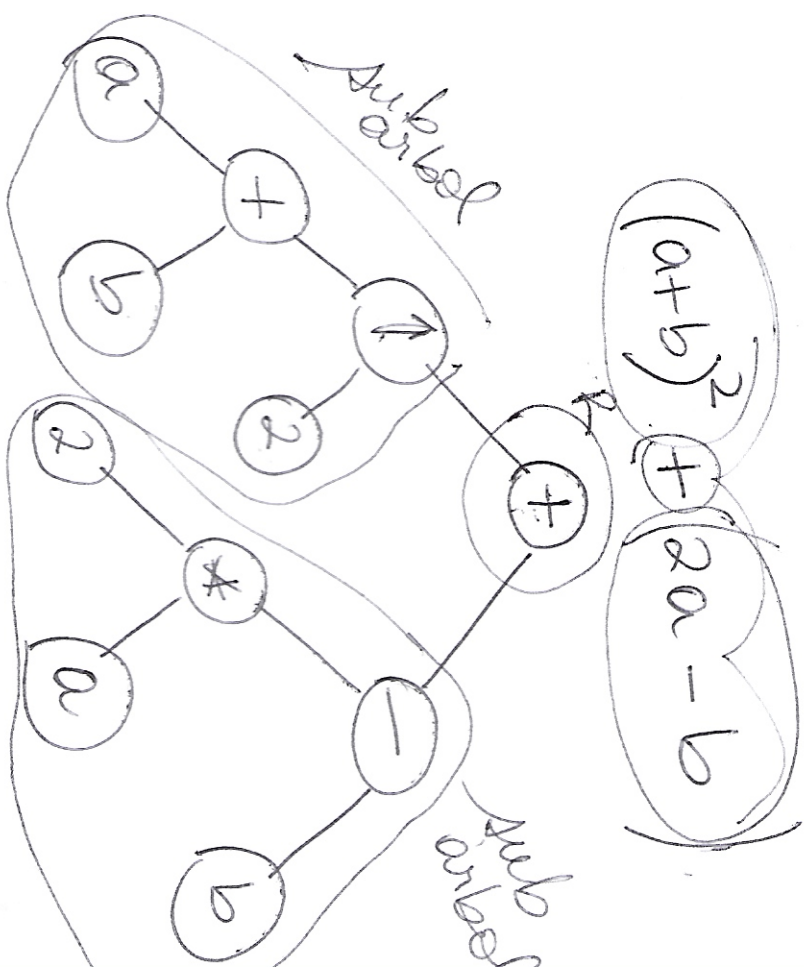
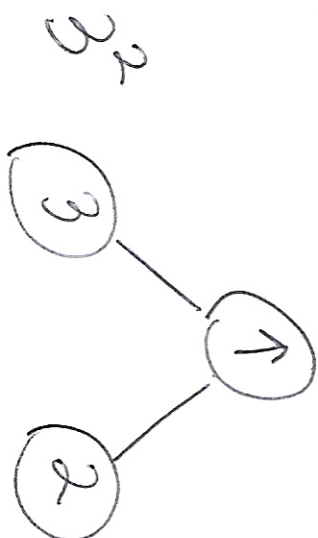
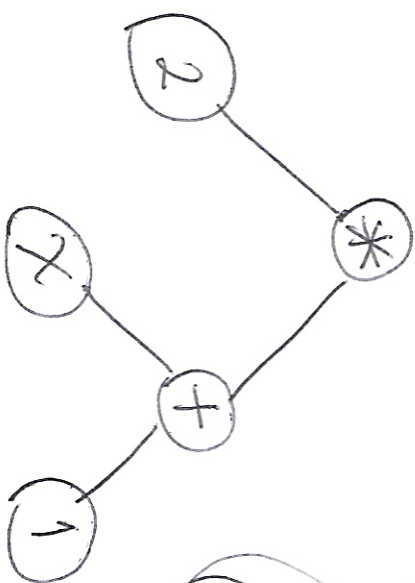
Abstract Syntax Trees

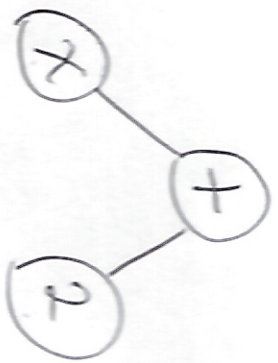


$$x+2$$

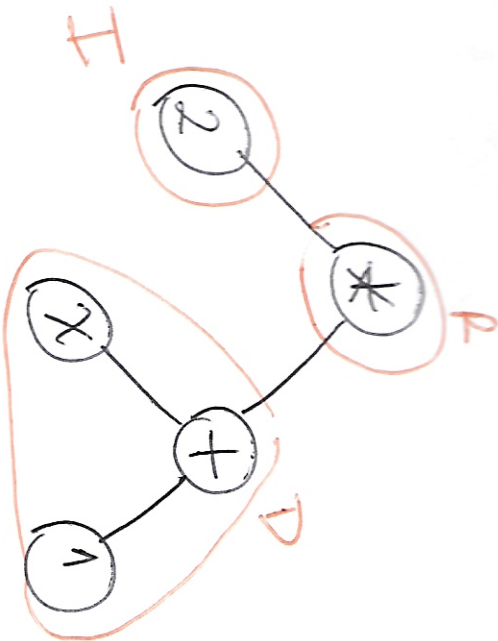


$$2 \cdot (x+1)$$

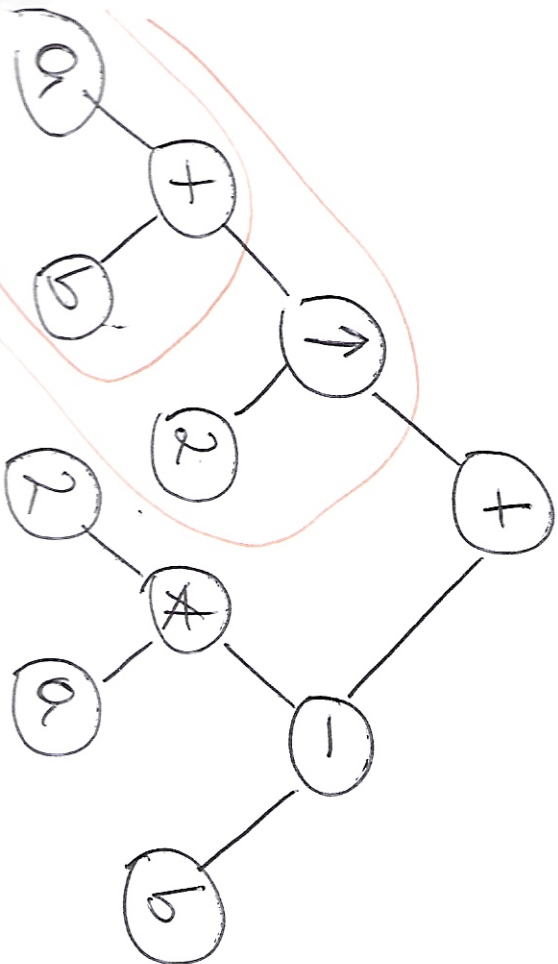




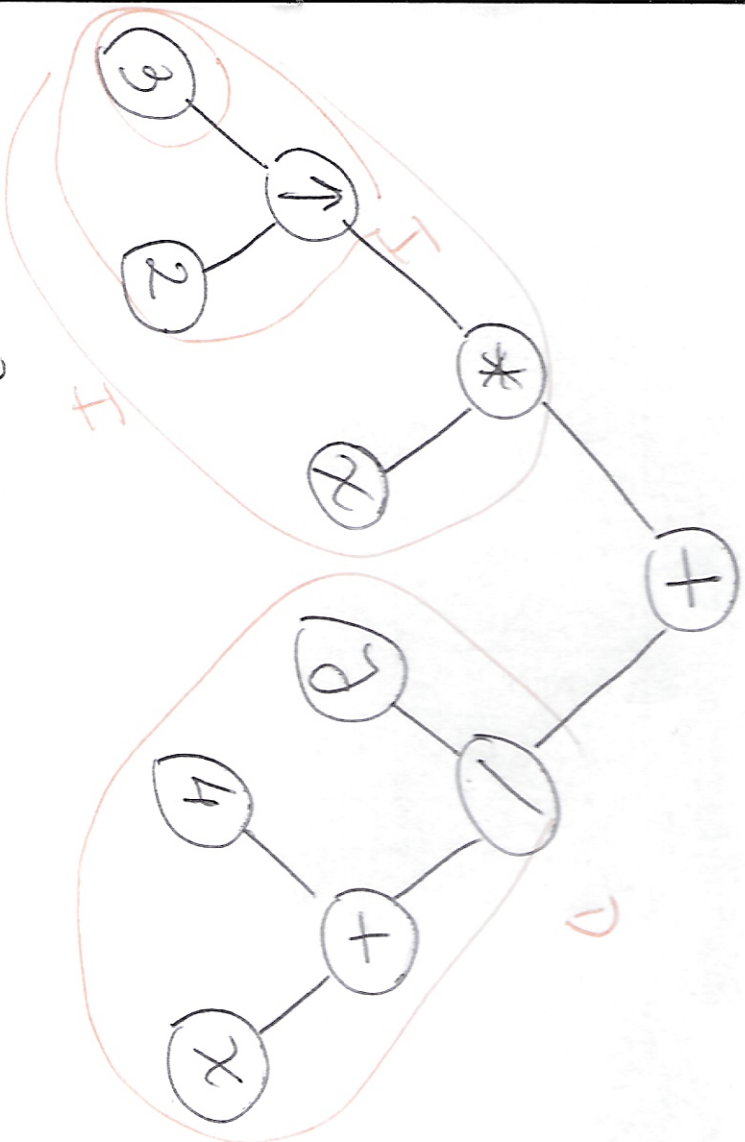
$PRE \rightarrow +x2$
 $IN \rightarrow x+2$
 $POST \rightarrow x2+$



$PRE \rightarrow *2+x1$
 $IN \rightarrow 2*x+1$
 $POST \rightarrow 2 \underbrace{x1+}_D *$
 I



$PRE \rightarrow + \underbrace{\uparrow}_{R_1} \underbrace{+ab2}_{I_1 D_1} \underbrace{-}_{R_2} \underbrace{*2ab}_{I_2 D_2}$
 $IN \rightarrow a+b \uparrow 2 + \underbrace{2*a-b}_D$
 $POST \rightarrow \underbrace{ab+2 \uparrow}_I \underbrace{2a*b-}_D +$



$$\frac{7}{4+x} + x^2$$

$$\text{PRE} \rightarrow + * \downarrow_{32} X \quad / \quad \theta + 4 X$$
$$\frac{1}{2} \rightarrow 3 \rightarrow 2 * X + \sqrt{4} + X$$
$$\text{post} \rightarrow 32 \downarrow x * y 4x + / +$$

① x) $\begin{cases} 5x + 5y = 9 \\ -5x + 9y = -9 \end{cases}$

