

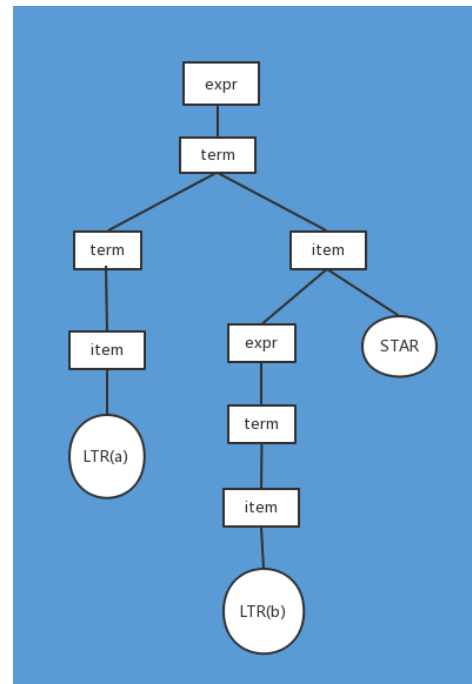
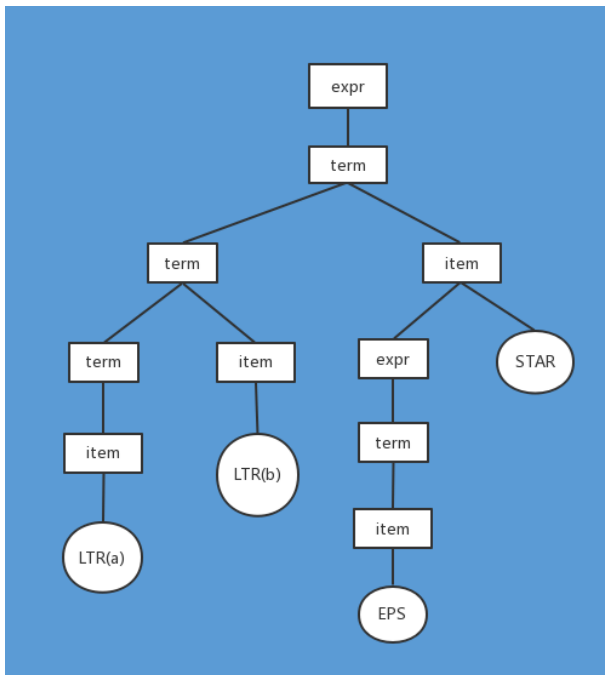
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HW3

Question1 :

CFG1:

The string 'ab*' is in the language of CFG, but there're two parse trees for it:.



CFG2:

For example '+' is not a legal regular expression but it is in the language of this CFG, so this CFG is not correct.

CFG3:

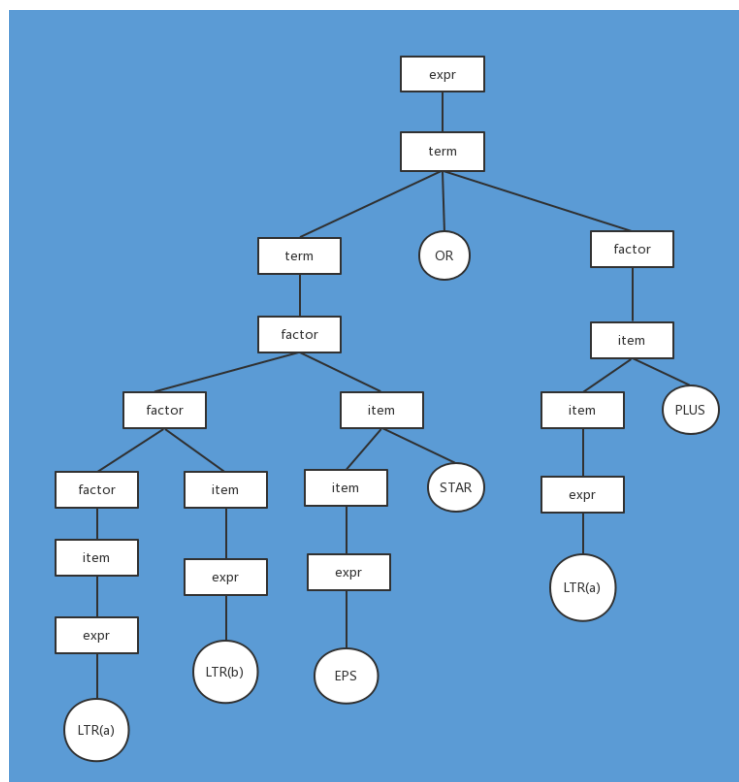
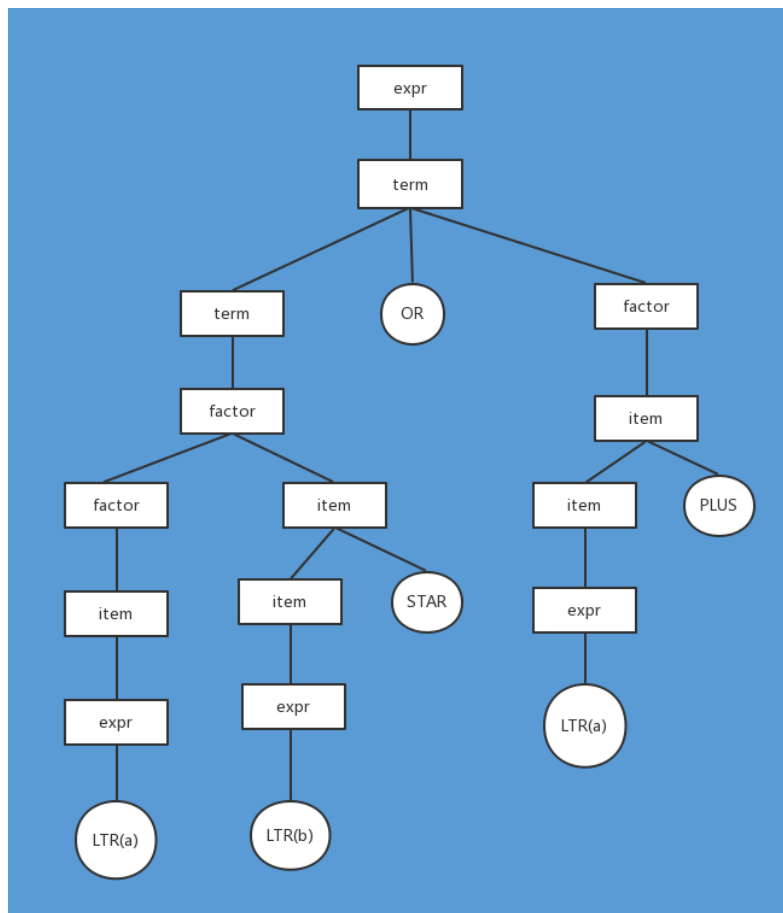
'()*' is not a legal regular expression but it is in the language of the CFG, so this CFG is not correct.

CFG4 :

'(ab)*ab' is a legal regular expression but is not in the language of CFG, so this CFG is not correct

CFG5:

The string 'ab*|a+' is in the language of CFG , there're two different parse trees for it:



Question2:

$\text{expr} \rightarrow \text{expr OR term} \mid \text{term}$

$\text{term} \rightarrow \text{term item} \mid \text{item}$

$\text{item} \rightarrow \text{final STAR} \mid \text{final PLUS} \mid \text{final}$

$\text{final} \rightarrow \text{LPAR expr RPAR} \mid \text{LTR} \mid \text{EPS}$

Question3:

The parse tree is shown below:

