2024期末卷（回忆版）

一、名词解释（12分）——要记住书上第一章的那个流程图

compiler

scanner

tokens

Ambiguitous gammar

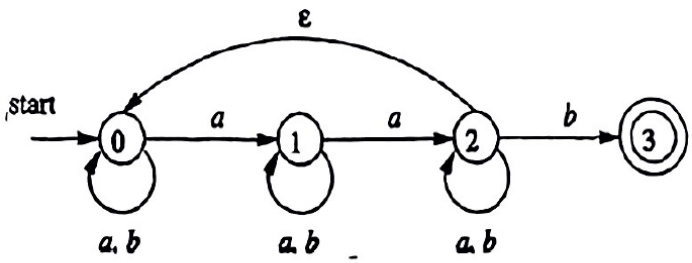
二、正则表达式——原题

2. （12 points）

a. Please check out which strings can be generated by the regular expression (ab|b)*cc?
abbc， abab， bcc， babcc， aaabc

b. Please check out which strings can be generated by the regular expression (b | a)b+(ba)* ?
aba, abb, ababa, aab, bbb

c. please determine which strings can be accepted by the NFA.
aab, bab, bbab, aaabb, abababab



三、终结符与非终结符——原题

4. (6 points) Given the grammar:

E→T|E+T|E-T

T→F|T*F|T/F

F→（E）|i

Please list all non-terminals and terminals in this grammar, and give the start symbol of the grammar.

四、消除左递归

五、NFA，DFA，最小化

（a|b）*a（a|b）

（1）画NFA

（2）画最小化的DFA

六、LL（1）

七、LR（1）

八、属性文法——书上例题

Example 6.2 consider the following grammar for simple integer arithmetic expressions:

$$exp \rightarrow exp + term \mid exp - term \mid term$$
$$term \rightarrow term * factor \mid factor$$
$$factor \rightarrow (exp) \mid \texttt{number}$$

文法规则	语义规则
$exp_1 \rightarrow exp_2 + term$	$exp_1.val = exp_2.val + term.val$
$exp_1 \rightarrow exp_2 - term$	$exp_1.val = exp_2.val - term.val$
$exp \rightarrow term$	$exp.val = term.val$
$term_1 \rightarrow term_2 * factor$	$term_1.val = term_2.val * factor.val$
$term \rightarrow factor$	$term.val = factor.val$
$factor \rightarrow (exp)$	$factor.val = exp.val$
$factor \rightarrow \texttt{number}$	$factor.val = \texttt{number}.val$