编译原理 · Quiz 1

1. Given a legal string of tokens for a CFG, there must be a unique parsing tree to derivate the string.

判断题 (4.0 分)（难易度:中）

A. True

B. False

正确答案：B

答案解释：暂无

2. Left-recursive CFG cannot be LL(1).

判断题 (4.0 分)（难易度:中）

A. True

B. Fase

正确答案：A

答案解释：暂无

3. The language L={ $a^n b^n | n > 1$ } can't be generated by any CFG.

判断题 (4.0 分)（难易度:中）

A. True

B. False

正确答案：B

答案解释：暂无

4. There is only one parse tree for a string of an unambiguous grammar.

判断题 (4.0 分)（难易度:中）

A. True

B. False

正确答案：A

答案解释：暂无

5. Both DFA and NFA can recognize regular set.

判断题 (4.0 分)（难易度:中）

A. True

B. False

正确答案：A

答案解释：暂无

6. Which of the following string can be defined by theregular expression (a|b)*ab*c(a|b|c)*

单选题 (5.0 分)（难易度:中）

A. ccbbaa

B. ccaabb

C. ccbbaa

D. aabbcc

正确答案：D

7. Which action is notin a LL(1) parsing table?

单选题 (5.0 分) （难易度:中）

A. Match

B. Generate

C. Accept

D. Reduce

正确答案：D

8. The output of the parser is_____.

单选题 (5.0 分) （难易度:中）

A. token

B. syntax tree

C. target code

D. intermediate code

正确答案：B

9. _____reflects the derivation steps of a string.

单选题 (5.0 分) （难易度:中）

A. Syntax tree

B. Parse tree

C. Binary tree

D. Quadtree

正确答案：B

10. _____is commonly used to make operations left associative.

单选题 (5.0 分) （难易度:中）

A. Right recursion

B. Indirect recursion

C. Left recursion

D. Left factoring

正确答案：C

11.   (1) Convert the regular expression **(a|b)*ab** into an NFA using the rules in section 2.4; **(15 cents)**
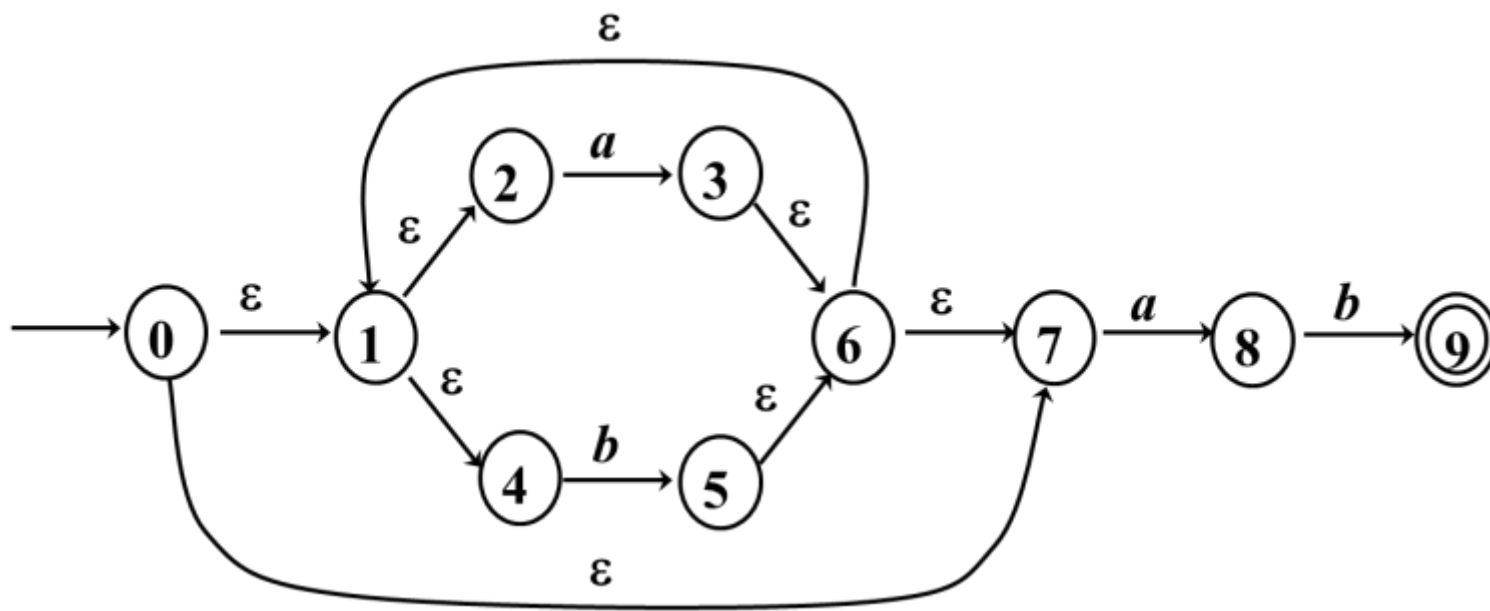   (2)Then, convert the above NFA into a DFA using the subset construction. **(15 cents)**
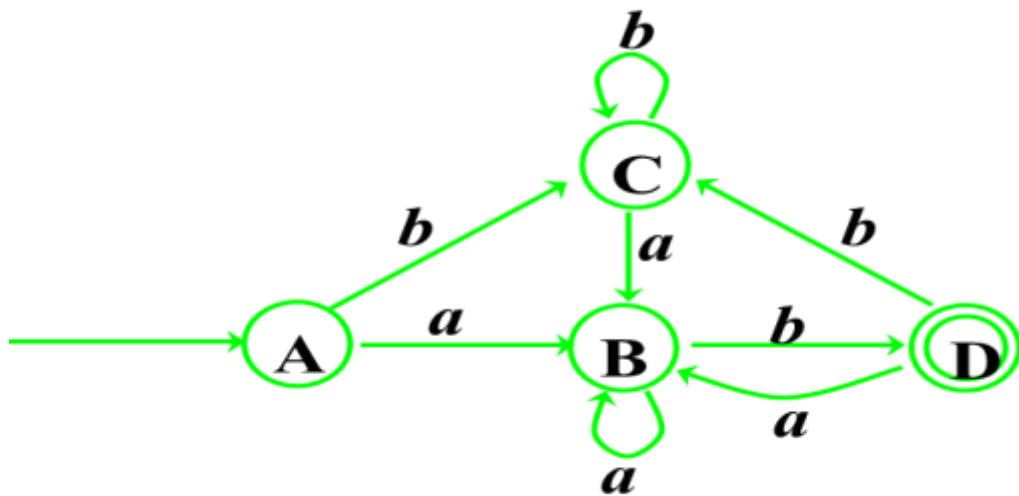   (3) Minimize the DFA. **(5 cents)**
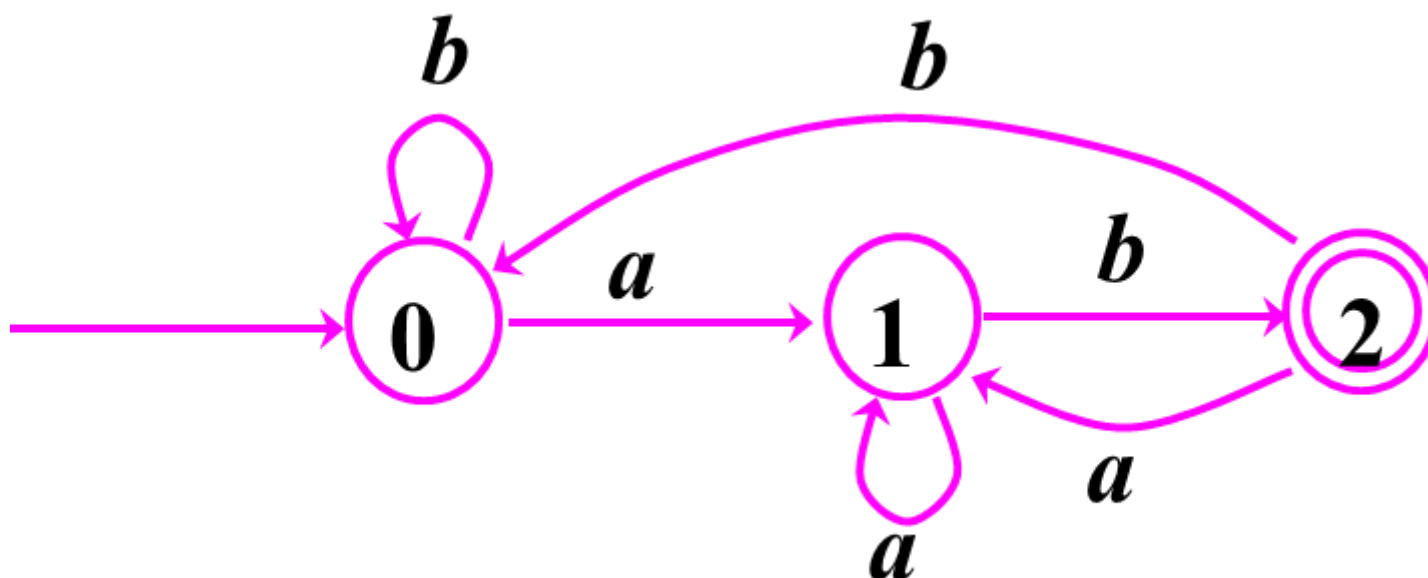
简答题 (35.0 分) （难易度:中）

答案解释:

(1)（根据Thompson构造法，应该在7,8,9后面加上ε）

(2)

(3)

12.　　(1) Can the following string set be described by a regularexpression? **(5 Points)**

$$L(G) =\{ a^{2n+1}ba^{2n+1} \mid n=0,1,2, \ldots \}$$

　　(2) Does there exist any CFG generating the above string set? If yes, write it down. **(15 Points)**

简答题 (20.0 分)（难易度:中）

答案解释:

(1) No.

(2) Yes. The Following CFGcan generate the string set.

A → aaAbb | ab