CS323 2024F Quiz #2 - Parsing

1.Your student ID: *****

2.Consider the grammar G below. Which one of the following statements is wrong? *****

E -> E + E | E - E | E * E | (E) | id

○ The grammar symbol E is a non-terminal

○ The grammar is LL(1)

○ (id+id)*(id-id) is a valid sentence of the grammar

○ E-(E) is a sentential form of the grammar

3.An LL(1) parser generates *****

○ Left-most derivation

○ Left-most derivation in reverse

○ Right-most derivation

○ Right-most derivation in reverse

Given the grammar S -> SS+ | SS* | a, answer the following two questions.

4.Which of the following symbols belong(s) to FIRST(S)? [多选题] *

☐ S

☐ $

☐ ε

☐ +

☐ *

☐ a

5.Which of the following symbols belong(s) to FOLLOW(S)? [多选题] *

☐ S

☐ $

☐ ε

☐ +

☐ *

☐ a

6.For a shift-reduce style bottom-up parser, the stack content (grammar symbols from bottom to top) and the remaining symbols in the input buffer always form a _____ of the language. Here, we assume that there is no syntax error during parsing. *

◯ Left-sentential form

◯ Left-sentential form in reverse

◯ Right-sentential form

◯ Right-sentential form in reverse

7.Which of the following statements about items is incorrect? *

○ LR(0) items have no lookahead symbols.

○ LR(1) items have one lookahead symbol.

○ The dot can only appear in the production body in LR(0) items.

○ SLR algorithm uses LR(1) items to make parsing decisions.