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QUESTIONS

10.0/10.0 points (graded)

A.

Consider the following grammar:

S → aAbCD | ε

A → ASD | ε

B → SaC | hC | ε

C → Sf | Cg

D →aBD |k

Here, the set of terminals: T = {a, b, f, g, h} and variables, V = {S, A, B, C, D}

1. What will be the elements in Follow (S)?

- [ ] ε
- [x] $
- [x] a
- [x] b
- [x] f
- [ ] g
- [ ] h

✔

2. What will be the elements in Follow (A)?

- [ ] ε
- [ ] $
- [x] a
- [x] b
- [ ] f
- [ ] g
- [ ] h

✔

3. What will be the elements in Follow (B)?

- [ ] ε
- [x] $
- [x] a
- [x] b
- [x] f
- [ ] g
- [ ] h

✔

4. Which of the following are in the set Follow (C)?

- [ ] ε
- [x] $
- [x] a
- [x] b
- [x] f
- [x] g
- [ ] h

✔

5. Which of the following are in the set Follow (D)?

- [ ] ε
- [x] $
- [x] a
- [x] b
- [x] f
- [ ] g
- [ ] h

✔

B.

6. Which one of the following derivation techniques does a bottom-up parser use while parsing an input string?

- [ ] a. Leftmost derivation in forward order
- [ ] b. Leftmost derivation in reverse order
- [ ] c. Rightmost derivation in forward order
- [x] d. Rightmost derivation in reverse order

✔

7. Shift-Reduce parser belongs to a class of

- [x] a. Bottom-up parser
- [ ] b. Top-down parser
- [ ] c. Predictive parser
- [ ] d. Recursive parser

✔

8. Consider bottom-up parsing for the grammar E → E+E | E*E | num. Which one of the following statements is true?

- [ ] a. The parsing will successfully run for any input
- [x] b. Have conflicts because the grammar is ambiguous
- [ ] c. Have conflicts because the grammar is left recursive
- [ ] d. Both b and c

✔

9. Which of the following statements is/ are true for a bottom-up parser?

- [ ] a. Can work with ambiguous grammar
- [x] b. Can work with left recursive grammar
- [x] c. Can work with right recursive grammar
- [ ] d. Finds the leftmost derivation

✔

10. Which of the following statements is/are true for a top down parser?

- [ ] a. Can work with ambiguous grammar
- [ ] b. Can work with left recursive grammar
- [x] c. Can work with right recursive grammar
- [x] d. Finds the leftmost derivation

✔

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