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## Course outline

# Week 6 : Assignment 6

**The due date for submitting this assignment has passed.**

**Due on 2025-03-05, 23:59 IST.**

## Assignment submitted on 2025-02-21, 18:11 IST

1)                                                                       **1 point**

For the grammar
$$S' \rightarrow S$$
$$S \rightarrow CC$$
$$C \rightarrow cC \mid d$$
In state 0 of LR(1) parser, an item included is

a)  $C \rightarrow .cC; c$
b)  $C \rightarrow .cC; d$
c)  $C \rightarrow .cC; c,d$
d)  $C \rightarrow .cC; c, \$$

○ a
○ b
◉ c
○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*c*

2)    For the grammar                                                    *1 point*
           $S' \rightarrow S$
           $S \rightarrow CC$
           $C \rightarrow cC \mid d$
      In state 0 of LR(1) parser, an item included is

          a)  $C \rightarrow .d; c$
          b)  $C \rightarrow .d; d$
          c)  $C \rightarrow .d; c,d$
          d)  $C \rightarrow .d; c, \$$

○ a

○ b

◉ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*c*

3)                                                                       *1 point*

In SLR parsing to get a shift-reduce conflict for state I on terminal symbol 'a',

   a)  $A \rightarrow \alpha.\beta$ with First($\beta$) containing 'a' should be in I
   b)  $A \rightarrow \delta.$ be in I with Follow(A) having 'a'
   c)  $A \rightarrow \alpha.\beta$ with First($\beta$) containing 'a' should be in I and $A \rightarrow \delta.$ be in I with
       Follow(A) having 'a'
   d)  None of the other options

○ a

○ b

◉ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*c*

4)                                                                       *1 point*

In state I we have the items $A \rightarrow \alpha.$ and $B \rightarrow \delta.$, First(A), Follow(A) and Follow(B)
contains the symbol 'a'. This leads to

   a)  Shift-reduce conflict
   b)  Reduce – reduce conflict
   c)  Both shift-reduce and reduce –reduce conflicts
   d)  No conflicts

○ a

◉ b

○ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*b*

5)    Which of the following statements is true regarding LR parsers?    *1 point*

    a) SLR and Canonical LR have the same number of states.
    b) LALR and Canonical LR have the same number of states.
    c) SLR and LALR have the same number of states.
    d) All three have the same number of states.

○ a

○ b

○ c

◉ d

No, the answer is incorrect.
Score: 0

Accepted Answers:
*c*

6)    *1 point*

Construction of parsing table in which strategies do not need the Follow set?

    a)  SLR and canonical LR
    b)  Canonical LR and LALR
    c)  SLR and LALR
    d)  None of the given options

○ a

◉ b

○ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*b*

7)    *1 point*

In SLR parsing for the grammar
      $E' \rightarrow E$
      $E \rightarrow aEbE \mid bEaE \mid \varepsilon$
In state 0, for inputs 'a' and 'b'

    a)  Both will have shift-reduce conflict
    b)  Only 'a' will have shift-reduce conflict
    c)  Only 'b' will have shift-reduce conflict
    d)  Neither of the other options

◉ a

○ b

○ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*a*

8)  Amount of look ahead in LALR parser is                                          *1 point*

a) 1
b) 2
c) 3
d) None

◉ a

○ b

○ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*a*

9)  In SLR parsing for the grammar                                                  *0 points*
        $S \rightarrow B \mid SabS$
        $B \rightarrow bB \mid \varepsilon$
    In state 0, for inputs 'a' and 'b'

a)  Both will have shift-reduce conflict
b)  Only 'a' will have shift-reduce conflict
c)  Only 'b' will have shift-reduce conflict
d)  Neither of the other options

○ a

◉ b

○ c

○ d

Yes, the answer is correct.
Score: 0

Accepted Answers:
*b*

10)                                                                                 *1 point*

Which of the following parser types is the most powerful in terms of recognizing a broader class of grammars?
a) LL(1)
b) SLR(1)
c) LALR(1)
d) LR(1)

○ a

○ b

○ c

◉ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*d*

11)                                                                                                  *1 point*

What is the similarity between LR, LALR and SLR

   a) Use same algorithm, but different parsing table.
   b) Same parsing table, but different algorithm.
   c) Their Parsing tables and algorithm are similar but uses top down approach.
   d) Both Parsing tables and algorithm are different.

◉ a

○ b

○ c

○ d

Yes, the answer is correct.
Score: 1

Accepted Answers:
*a*