

OneNote for Windows 10 | ramesh masuna

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49. Consider the grammar shown below  
 $\langle \text{life} \rangle \rightarrow \langle \text{session} \rangle \langle \text{session} \rangle$   
 $\langle \text{session} \rangle \rightarrow \text{play} \langle \text{session} \rangle \mid \text{rest}$   
 $\langle \text{life} \rangle \rightarrow \langle \text{session} \rangle . \langle \text{session} \rangle$   
 $\langle \text{session} \rangle \rightarrow \text{play} . \langle \text{session} \rangle$   
 $\langle \text{session} \rangle \rightarrow \text{play} \langle \text{session} \rangle .$

In the LR(0) machine for the grammar consider the items

Choose the correct statement?

(a) No two of the items occur in the same state  
 (b) All three of the items occur in same state  
 (c) At least two of them occur in multiple states  
 (d) None of the above

50. Consider the following grammar

51. The grammar  $S \rightarrow AA$ ,  $A \rightarrow aA/b$  In the LR(0) machine for the above grammar, the number of states are \_\_\_\_.

52. The grammar  $E \rightarrow E + T/T$ ;  $T \rightarrow a$  is  
 (a) not LR(0)  
 (b) not SLR(1) but CLR(1)  
 (c) CLR(1)  
 (d) not LALR(1)

Handwritten notes:

$L \rightarrow SS$   
 $S \rightarrow PS/\gamma$

Diagram showing LR(0) items and transitions:

```

graph LR
    L1["L → .L  
L → .SS  
S → .PS  
S → .γ"]
    L2["L → S.S  
S → .PS  
S → .γ"]
    L3["S → P.S  
S → .PS  
S → .γ"]
    L4["S → PS.S  
S → .PS  
S → .γ"]
    L1 -- S --> L2
    L1 -- γ --> L3
    L2 -- P --> L4
    L3 -- P --> L4
    L4 -- γ --> L3
  
```

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(a) No two of the items occur in the same state  
 (b) All three of the items occur in same state  
 (c) At least two of them occur in multiple states  
 (d) None of the above

50. Consider the following grammar  
 $\langle \text{expression} \rangle \rightarrow \langle \text{factor} \rangle \langle \text{rest} \rangle$   
 $\langle \text{rest} \rangle \rightarrow * \langle \text{expression} \rangle \mid \epsilon$   
 $\langle \text{factor} \rangle \rightarrow \text{identifier}$

In the LR(0) machine the two of the following LR(0) items appear in the same state

51. The grammar  $E \rightarrow E + T/T$ ;  $T \rightarrow a$  is  
 (a) not LR(0)  
 (b) not SLR(1) but CLR(1)  
 (c) CLR(1)  
 (d) not LALR(1)

52. The LR(0) parser for the grammar  
 $E \rightarrow E + T \mid T$   
 $T \rightarrow T * F \mid F$   
 $F \rightarrow \text{id}$

Contains \_\_\_\_ number of conflicts.

Handwritten notes:

$E \rightarrow FR$   
 $R \rightarrow R * E / E$   
 $F \rightarrow \text{id}$

Diagram showing LR(0) items and transitions:

```

graph LR
    E1["E → .E  
E → .FR  
F → .id"]
    E2["E → R.E  
R → R.E  
F → .id"]
    E1 -- R --> E2
    E1 -- id --> F1["F → .id"]
  
```

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(b) There exists a grammar that is LALR(1) but not SLR(1) (T)

(c) There exists a grammar that is LR(1) but not LALR(1) (T)

(d) There doesn't exist a grammar that is LL(2) and LR(0) (F)

48. Which of the following is incorrect ?

(a) every LR(0) is CLR(1) (T)

(b) every LL(1) is LR(0) (F)

(c) every LR(1) is CFG (T)

(d) every SLR(1) is CLR(1) (T)

49. Consider the grammar shown below

$\langle \text{life} \rangle \rightarrow \langle \text{session} \rangle \langle \text{session} \rangle$

$\langle \text{session} \rangle \rightarrow \text{play} \langle \text{session} \rangle \mid \text{rest}$

In the LR(0) machine for the grammar consider the items

$L \rightarrow SS$   
 $S \rightarrow pS/r$   
 $S \rightarrow s.s$

(i)  $\langle \text{expression} \rangle \rightarrow \langle \text{factor} \rangle \langle \text{rest} \rangle$

(ii)  $\langle \text{expression} \rangle \rightarrow \cdot * \langle \text{rest} \rangle$

(iii)  $\langle \text{factor} \rangle \rightarrow \cdot \text{identifier}$

(a) (i) and (ii) ✓

(b) (i) and (iii) ✓

(c) (ii) and (iii)

(d) None of the above

51.  $S \rightarrow SB / A$

$A \rightarrow a$

$B \rightarrow b$

Find the closure set of  $S' \rightarrow \cdot S$  for the LR(0) machine is \_\_\_\_.

(a)  $S' \rightarrow \cdot S$

$S \rightarrow \cdot SB$

$S \rightarrow \cdot A$

$A \rightarrow \cdot a$

$B \rightarrow \cdot b$

(b)  $S' \rightarrow \cdot S$

$S \rightarrow \cdot SB$

$S \rightarrow \cdot A$

$A \rightarrow \cdot a$

(c)  $S' \rightarrow \cdot S$

$S \rightarrow \cdot SB$

(d) None

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ASS 1

$\langle \text{session} \rangle \rightarrow \text{play} \langle \text{session} \rangle$

$\langle \text{session} \rangle \rightarrow \text{play} \langle \text{session} \rangle$

$L \rightarrow SS$   
 $S \rightarrow pS$   
 $S \rightarrow r$   
 $S \rightarrow s.s$

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1. Question (Single Choice) \*

☐ A

☐ B

☐ C

☐ D

0 of 1 answered

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52.  $S \rightarrow AA$

$A \rightarrow aA/b$

In the LR(0) machine for the above grammar, the number of states are 7.

53. The grammar  $E \rightarrow E + T/T; T \rightarrow a$  is

(a) not LR(0)

(b) not SLR(1) but CLR(1)

(c) CLR(1)

(d) not LALR(1)

54. The LR(0) parser for the grammar

$E \rightarrow E + T \mid T$

$T \rightarrow T * F \mid F$

$F \rightarrow id$

Contains \_\_\_\_\_ number of conflicts.

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54. The LR(0) parser for the grammar

$$E \rightarrow E+T \mid T$$

$$T \rightarrow T^*F \mid F$$

$$F \rightarrow id$$

Contains 2 number of conflicts.

Consider the following grammar

$$\langle expression \rangle \rightarrow \langle factor \rangle \langle rest \rangle$$

$$\langle rest \rangle \rightarrow * \langle expression \rangle \mid \epsilon$$

$$\langle factor \rangle \rightarrow identifier$$

In the LR(0) machine the two of the following LR(0) items appear in the same state

$E \rightarrow \cdot E$   
 $E \rightarrow \cdot FR$   
 $F \rightarrow \cdot id$

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55. Consider the grammar

(c) SLR(1) but not LR(0)

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55. Consider the grammar (msa)

$$\langle statement \rangle \rightarrow a \langle statement \rangle \mid b$$

$$\langle statement \rangle b \mid c$$

Choose the false statement

(a) Not LR(0) ☒ LALR(1) ☒ SLR(1) ☒ LR(1)

56. Consider the grammar

$$A \rightarrow A + A \mid i$$

Choose the proper statement regarding the property of the above grammar.

(a) The grammar is LR(1) but not LALR(1)  
(b) The grammar is LALR(1) but not LL(1)  
(c) The grammar is SLR(1) but not LR(0)  
(d) None of the above

57. Find the number of conflicting entries in SLR(1)

58. Consider the grammar

$$S \rightarrow aS \mid bSb \mid c$$

Choose the false statement

(a) Not LR(0) ☒ LALR(1) ☒ SLR(1) ☒ LR(1)

59. The LR(0) parser for the grammar

$$E \rightarrow E+T \mid T$$

$$T \rightarrow T^*F \mid F$$

$$F \rightarrow id$$

Contains 2 number of conflicts.

60. What is the conflict in LR(1) construction for the grammar

$$A \rightarrow aA \mid Ab \mid d$$

(a) RR conflict  
(b) SR conflict  
(c) Both RR and SR conflicts  
(d) No conflict

61. Consider the grammar

$$S \rightarrow Aa \mid bAc \mid dc \mid bda$$

$$A \rightarrow d$$

(a) The grammar is LL(1)  
(b) The grammar is LR(0)  
(c) The grammar is SLR(1)

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Objective Practice Questions

64.  $S \rightarrow L = R / R$   
 $L \rightarrow *R / id$   
 $R \rightarrow L$

In the LR (1) items of the above grammar, the closure set of items in  $S' \rightarrow S, \$$  contains

(a)  $L \rightarrow *R, =$  (b)  $L \rightarrow *R, \$$   
(c)  $L \rightarrow *R, = / \$$  (d)  $L \rightarrow id, =$

65. Consider the grammar :  
 $S \rightarrow a A b$   
 $A \rightarrow a A b \mid a$   
then which of the following is true ?  
(a) the grammar is LL(1)  
(b) the grammar is LR(0)

relationship holds good  
(a)  $N1 < N2 < N3$  (b)  $N1 = N2 < N3$   
(c)  $N1 = N2 > N3$  (d)  $N1 \geq N3 \geq N2$

69. Let there are '10' states for a grammar which is SLR(1), then the number of states in LALR(1) parser is \_\_\_\_.

70. The parser generator tool YACC uses \_\_\_\_ parsing table  
(a) LR(0) (b) SLR(1)  
(c) LALR(1) (d) LR(1)

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Objective Practice Questions

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 $L \rightarrow *R / id$   
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In the LR (1) items of the above grammar, the closure set of items in  $S' \rightarrow S, \$$  contains

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(c)  $N1 = N2 > N3$  (d)  $N1 \geq N3 \geq N2$

69. Let there are '10' states for a grammar which is SLR(1), then the number of states in LALR(1) parser is 10.

70. The parser generator tool YACC uses \_\_\_\_ parsing table  
(a) LR(0) (b) SLR(1)  
(c) LALR(1) (d) LR(1)

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Objective Practice Questions

64.  $S \rightarrow L = R / R$   
 $L \rightarrow *R / id$   
 $R \rightarrow L$

In the LR (1) items of the above grammar, the closure set of items in  $S' \rightarrow S, \$$  contains

(a)  $L \rightarrow *R, =$  (b)  $L \rightarrow *R, \$$   
(c)  $L \rightarrow *R, = / \$$  (d)  $L \rightarrow id, =$

65. Consider the grammar :

$S \rightarrow a A b$   
 $A \rightarrow a A b \mid a$

then which of the following is true ?

(a) the grammar is LL(1)  
(b) the grammar is LR(0)

relationship holds good

(a)  $N1 < N2 < N3$  (b)  $N1 = N2 < N3$   
(c)  $N1 = N2 > N3$  (d)  $N1 \geq N3 \geq N2$

69. Let there are '10' states for a grammar which is SLR(1), then the number of states in LALR(1) parser is 10.

70. The parser generator tool YACC uses \_\_\_\_\_ parsing table

(a) LR(0) (b) SLR(1)  
(c) LALR(1) (d) LR(1)

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