Question

10.0/10.0 points (graded)

Consider the following augmented grammar. G ={ {S, L}, S, { ( ), :, a } }

0. $S' \rightarrow S$

1. $S \rightarrow (L)$

2. $S \rightarrow a$

3. $L \rightarrow L;S$

4. $L \rightarrow S$

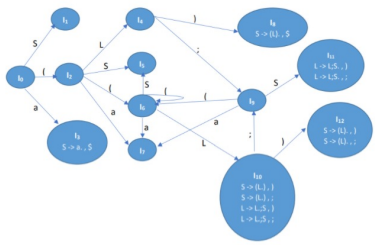

Fig. 1

Figure 1 shows the skeleton of the LR(1) automaton for the grammar. If you can't see the image properly, follow this link.

https://drive.google.com/file/d/1baVQvN4tA66pdNHvEFwV8EelYqgMPDe7/view?usp=sharing
Complete the set of items. Construct the LR(1) table and answer the following questions based on your derived results.

1. How many items are there in the set of items I_0?

3 ✔

3

2. How many items are there in the set of items I_2?

9 ✔

9

3. How many items are there in the set of items I_4?

3 ✔

3

4. How many items are there in the set of items I_5?

2 ✔

2

5. How many items are there in the set of items I_6?

10 ✔

10

6. In the LR(1) table, which of the following do you get in the cell **(I_0, a)**?

- ○ Shift 1
- ○ Shift 2
- ◉ Shift 3
- ○ Accept
- ○ Reduce
- ○ Error

✔

7. In the LR(1) table, which of the following do you get in the cell **(I_1, $)**?

- ○ Shift 6
- ○ Shift 7
- ○ Shift 8
- ◉ Accept
- ○ Reduce
- ○ Error

✔

8. In the LR(1) table, which of the following do you get in the cell **(I_6, a)**?

- ○ Shift 6
- ◉ Shift 7
- ○ Shift 8
- ○ Reduce 2
- ○ Reduce 4
- ○ Reduce 1

✔

9. In the LR(1) table, which of the following cells contain **Reduce 2 (R2)**?

- ☑ **(I_3, $)**
- ☐ **(I_5, ;)**
- ☑ **(I_7, ;)**
- ☐ **(I_{11}, ;)**
- ☑ **(I_7,))**
- ☐ **(I_{11},))**

✔

10. In the LR(1) table, which of the following do you get in the cell **(I_6, L)**?

- ○ 1
- ○ 4
- ○ 5
- ◉ 10
- ○ 11

✔

Submit You have used 2 of 2 attempts