

LR(0) Parser

Date 20/10/2022

Step 1:

Augment the grammar and number it.

Step 2:

Draw DFA (Diagram).

Step 3:

Parsing Table.

Step 4:

Stack Implement.

Step 5:

Parse Tree.

Qs:

$$E \rightarrow BB$$

$$B \rightarrow cBd$$

String: ccdd\$

Sol:

Step 1:

Augment the grammar and number it.

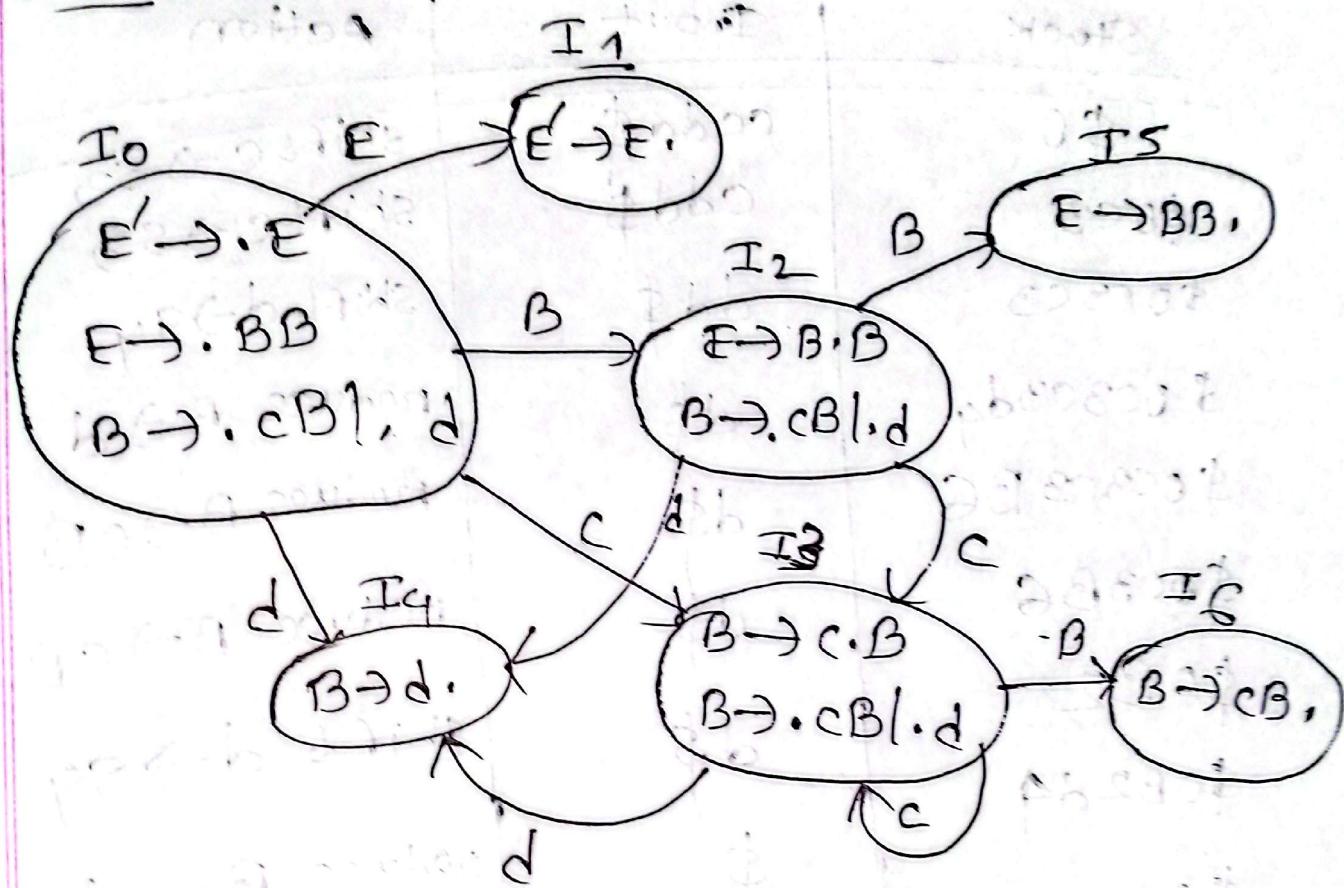
$$E' \rightarrow E \dots (0)$$

$$E \rightarrow BB \dots (1)$$

$$B \rightarrow cBd$$

(2) (3)

Step 2: Draw DFA Diagram



Step 3: Parsing Table

state	Action			Goto
	c	d	\$	
I*				B E
I0	s3	s4		2 1
I1	s3	s4		5
I2	s3	s4		6
I3	r3	r3	r3	
I4	r1	r1	r1	
I5	r2	r2	r2	
I6				

Step 4: Stack Implementation

Stack	Input	Action
\$0	ccdd\$	shift c → s ₃
\$0c ₃	dd\$	shift c → s ₃
\$0c ₃ c ₃	dd\$	shift d → s ₄
\$0c ₃ c ₃ d ₄	d\$	reduce B → d
\$0c ₃ c ₃ B ₆	d\$	reduce B → cB
\$0c ₃ B ₆	d\$	reduce B → cB
\$0B ₂	d\$	shift d → s ₄
\$0B ₂ d ₄	\$	reduce B → d
\$0B ₂ B ₅	\$	reduce ε → BB
\$0E ₁	\$	Accept

Step 5: Parse tree

