

Mousha Shah
bpu199

Daipayan Hati
ur19614

- 1 $E \rightarrow E + T$
- 2 $E \rightarrow T$
- 3 $T \rightarrow T^* F$
- 4 $T \rightarrow F$
- 5 $F \rightarrow (E)$
- 6 $F \rightarrow id$

First (E) = { id, () }

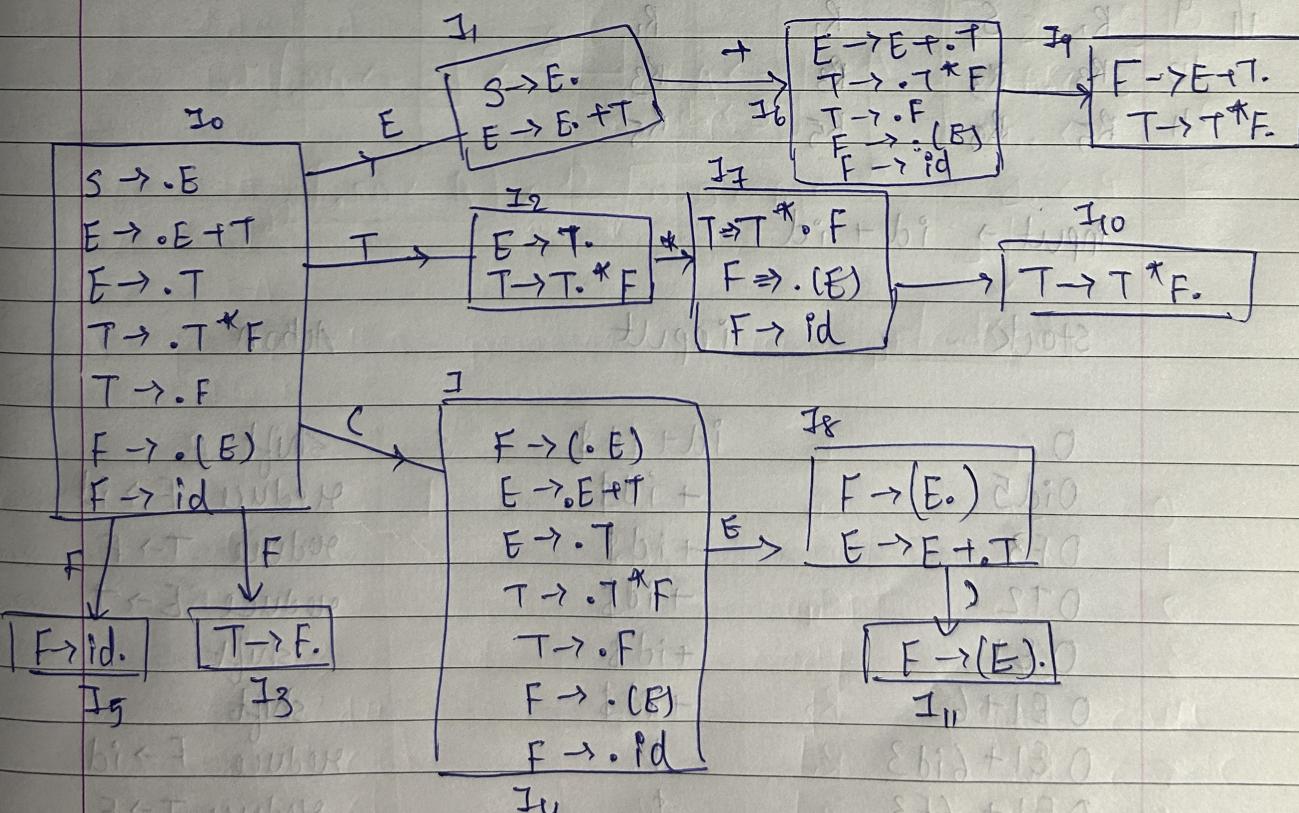
First (F) = { id, () }

First (T) = { id, () }

Follow (E) = { +, \$,) }

Follow (T) = { *, \$,), + }

Follow (F) = { \$,), +, * }



SLR Parsing table

State	Action						go to		
	+	*	()	id	\$	E	T	F
0							∅	T	
1	S ₄						1	2	3
2	R ₂	S ₇		R ₂					
3	R ₄	R ₄		R ₄			R ₄		
4		S ₄		S ₅			8	5	2
5	R ₆	R ₆	R ₆		R ₆				
6		S ₄		S ₅					
7		S ₄		S ₅					
8	S ₆		S ₁₁						
9	R ₁	S ₇	R ₁		R ₁				
10	R ₃	K ₃	R ₃		R ₃				
11	R ₅	R ₅	R ₅		R ₅				

input \rightarrow id + id

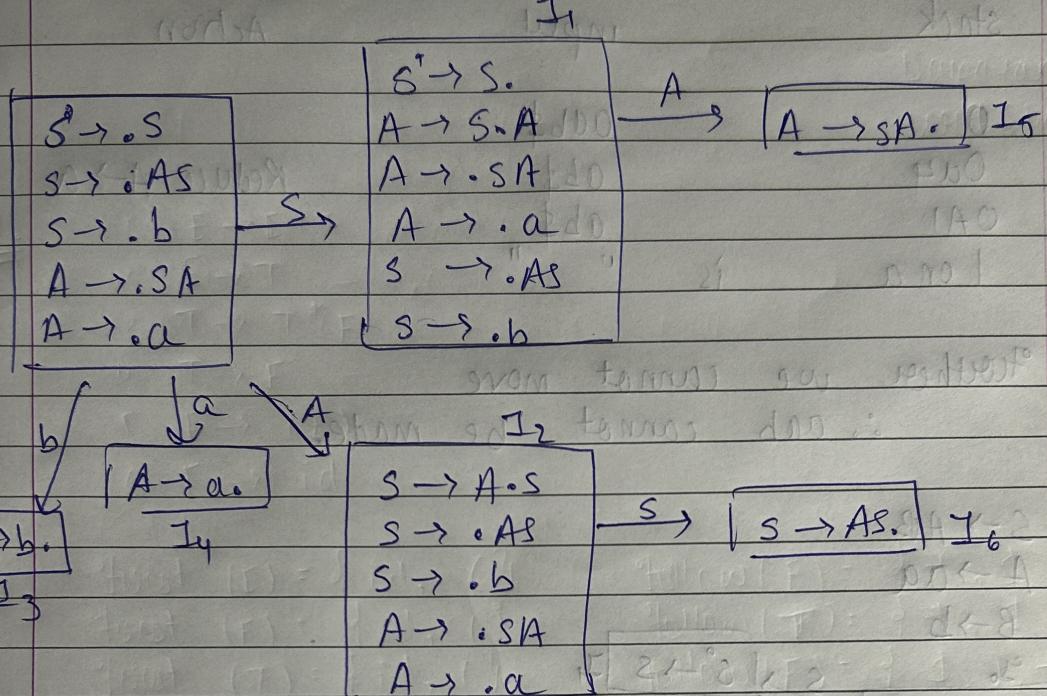
stack

input

Action

0	id + id \$	shift
0 id 5	+ id \$	reduce F \rightarrow id
0 F 3	+ id \$	reduce T \rightarrow F
0 T 2	+ id \$	reduce E \rightarrow T
0 E 1	+ id \$	shift
0 E 1 + 6	+ id \$	shift
0 E 1 + 6 id 3	\$	reduce F \rightarrow id
0 E 1 + 6 F 3	\$	reduce T \rightarrow F
0 E 1 + 6 T 9	\$	reduce E \rightarrow E + T
0 E 1	\$	Accept

$\stackrel{d}{\Rightarrow} S \rightarrow AS \mid b$
 $A \rightarrow SA \mid a$



	a	b	\$	S	A
0	S_4	S_2		3	
1		S_2		5	
2	R_2	R_2	R_2		
3	S_4		Acc.	3	6
4	R_4	R_4	R_4		
5	R_1	R_1	R_1		
6	R_3	R_3	R_3		

Stack	Input $\rightarrow ab\$$	Action
· 0	$ab\$$	
· 0A4	$ab\$$	Reduce $\rightarrow A \rightarrow a$
· 0A1	$b\$$	
· 0A1b2	$\$$	$R_2, S \rightarrow b$
· 0A1S5	$\$$	$R_1, S \rightarrow AS$
· 0S3	$\$$	
Accept		

B. Input \rightarrow aab\$

stack

0

0a4

0A1

1 on a

input

aab\$

ab\$

ab\$

is

Action

Reduce A \rightarrow a

Further we cannot move
 \therefore aab cannot be made.

3. $S \rightarrow AB$

$A \rightarrow aa$

$B \rightarrow b$

I_0

I_1

I_2

I_3

$S \rightarrow S' \rightarrow S$ I

$S \rightarrow A.B$
 $B \rightarrow b$

$S \rightarrow AB.$ I

$A \rightarrow a.a$
 a

$A \rightarrow aa.$ I

$B \rightarrow b.$ I

	a	b	\$	S	A	B
0	S_3	S_4		1	2	
1			Acco			
2		S_4				
3	S_6					5
4	R_3	R_3	R_3			
5	R_1	R_1	R_1			
6	R_2	R_2	R_2			

input: "aab"

Stack

Ø
Øa3
Øa3ab
ØA
ØA2
ØA2b4
ØA2B
ØA2B5
ØS
ØS1

input

aab\$
ab\$
b\$
b\$
b\$
\$
\$
\$
\$

Action

Shift S8
Shift S6
Reduce R2
Shift S2
Shift S4
Reduce R3
Shift S5
Reduce R1
Shift S1
Accept