

Grammar:

$$S \rightarrow SS^+$$
$$S \rightarrow SS^*$$
$$S \rightarrow a$$

Step 1: Augment the Grammar

$$S' \rightarrow S$$
$$S \rightarrow SS^+$$
$$S \rightarrow SS^*$$
$$S \rightarrow a$$

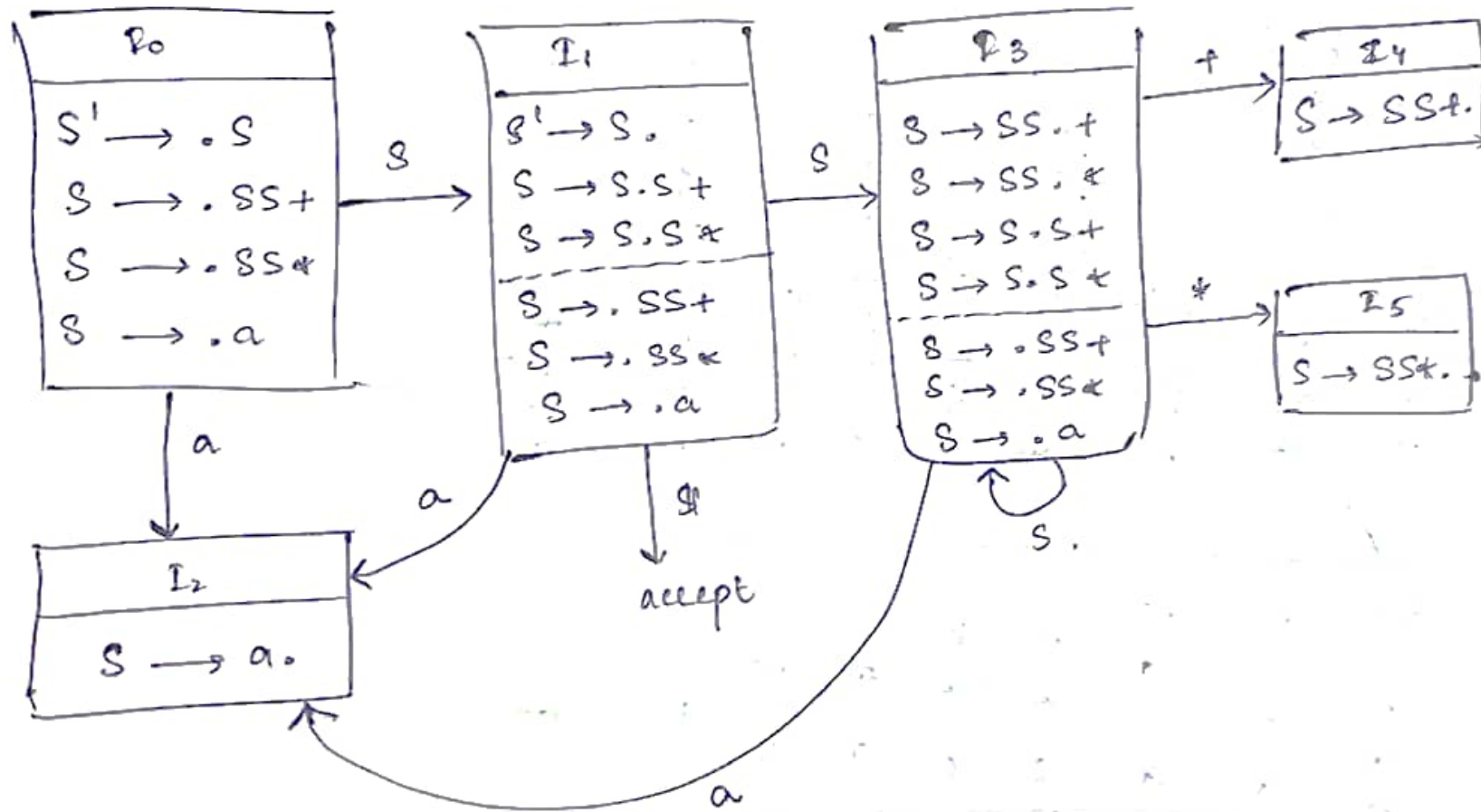
Step 2: Finding First:

$$\text{FIRST}(S) = \{a\}$$

Step 3: Finding Follow

$$\text{FOLLOW}(S) = \{\$, a, +, *\}$$

Step 4:



# Step 5: SLR Parsing Table

State	Action				Goto
	+	*	a	\$	S
0			S <sub>2</sub>		1
1			S <sub>2</sub>	accept	3
2	r <sub>3</sub>	r <sub>3</sub>	r <sub>3</sub>	r <sub>3</sub>	
3	S <sub>4</sub>	S <sub>5</sub>	S <sub>2</sub>		3
4	r <sub>1</sub>	r <sub>1</sub>	r <sub>1</sub>	r <sub>1</sub>	
5	r <sub>2</sub>	r <sub>2</sub>	r <sub>2</sub>	r <sub>2</sub>	

Step 6: Input =  $aa * a +$

Stack	Symbol	Input	Action.
0		$aa * a + \$$	shift $S_2$
0 2	a	$a * a + \$$	reduced $S \rightarrow a$
0 1	S	$a * a + \$$	shift $S_2$
0 1 2	Sa	$* a + \$$	reduced $S \rightarrow a$
0 1 3	SS	$* a + \$$	shift $S_5$
0 1 3 5	SS*	$a + \$$	reduced $S \rightarrow SS*$
0 1	S	$a + \$$	shift $S_2$
0 1 2	Sa	$+ \$$	reduced $S \rightarrow a$
0 1 3	SS	$+ \$$	shift $S_4$
0 1 3 4	SS+	$\$$	reduced $S \rightarrow SS+$
0 1	S	$\$$	accept