

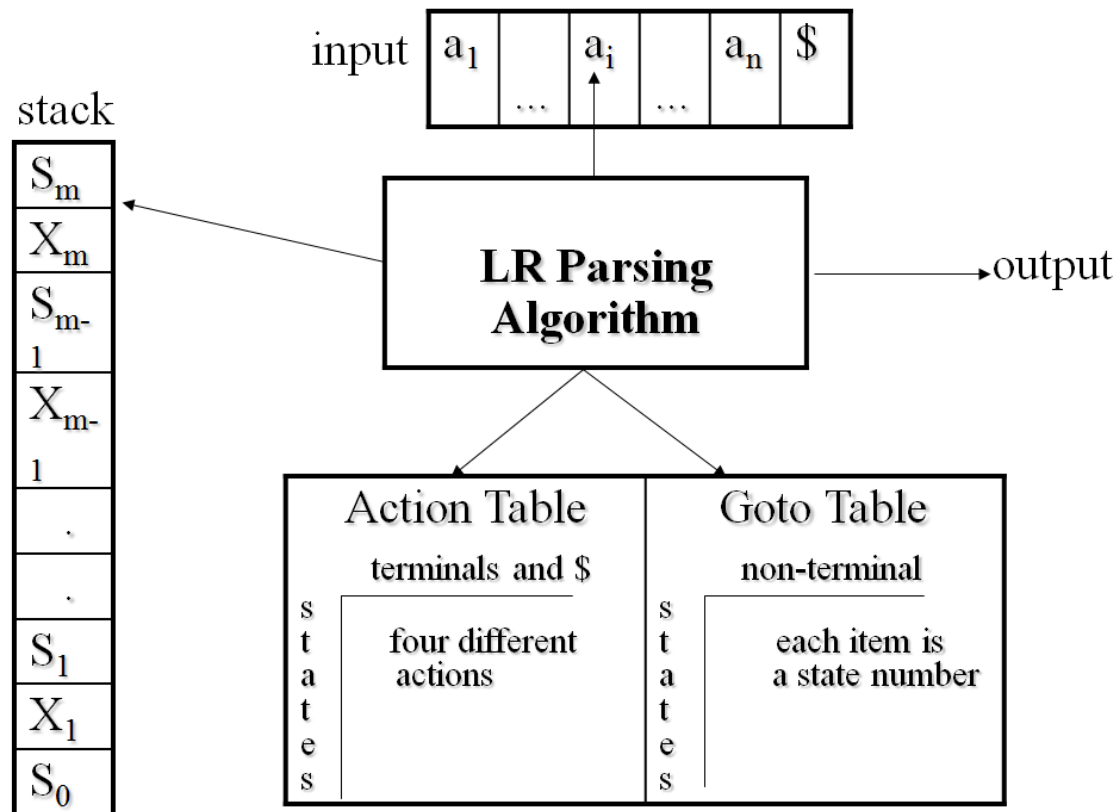
Advanced Software Engineering

SLR(1) Parser with JAVA

Project Overview:

In this project, the goal is to write the SLR (1) parser with JAVA programming Language, The program gets the SLR (1) grammar as input, then parse it based on SLR grammar and evaluate inputs based on the grammar.

The input sample is like $S \rightarrow A B b$, and you create the LR-Parsing table.



After getting the grammar from the input, we enter a Syntax or a phrase (according to the given grammar) and after performing the desired operations, the output is shown in the action table of the LR parser.

Actions of A (S)LR-Parser -- Example

<u>stack</u>	<u>input</u>	<u>action</u>	<u>output</u>
0	id*id+id\$	shift 5	
0id5	*id+id\$	reduce by $F \rightarrow id$	$F \rightarrow id$
0F3	*id+id\$	reduce by $T \rightarrow F$	$T \rightarrow F$
0T2	*id+id\$	shift 7	
0T2*7	id+id\$	shift 5	
0T2*7id5	+id\$	reduce by $F \rightarrow id$	$F \rightarrow id$
0T2*7F10	+id\$	reduce by $T \rightarrow T * F$	$T \rightarrow T * F$
0T2	+id\$	reduce by $E \rightarrow T$	$E \rightarrow T$
0E1	+id\$	shift 6	
0E1+6	id\$	shift 5	
0E1+6id5	\$	reduce by $F \rightarrow id$	$F \rightarrow id$
0E1+6F3	\$	reduce by $T \rightarrow F$	$T \rightarrow F$
0E1+6T9	\$	reduce by $E \rightarrow E + T$	$E \rightarrow E + T$
0E1	\$	accept	