

P2

Daniel Augusto Müller

RA: 2039834

### a) Tabela Analizador SLR

$C = \{E \rightarrow E+T, E \rightarrow T, T \rightarrow T * F, T \rightarrow F, F \rightarrow (E), F \rightarrow id\}$

$goto(I_0, E) = I_1 = \{E \rightarrow E., E \rightarrow E.+T\}$

$goto(I_0, T) = I_2 = \{E \rightarrow T., T \rightarrow T.*F\}$

$goto(I_0, F) = I_3 = \{T \rightarrow F.\}$

$goto(I_0, () = I_4 = \{F \rightarrow (.E), F \rightarrow .E+T, F \rightarrow .T, T \rightarrow .T * F, T \rightarrow .F, F \rightarrow .(E), F \rightarrow .id\}$

$goto(I_0, id) = I_5 = \{F \rightarrow id.\}$

$goto(I_1, +) = I_6 = \{E \rightarrow E+.T, T \rightarrow T.*F, T \rightarrow .F, F \rightarrow .(E), F \rightarrow id.\}$

$goto(I_2, *) = I_7 = \{T \rightarrow T*.F, F \rightarrow .(E), F \rightarrow id.\}$

$goto(I_4, E) = I_8 = \{F \rightarrow (E.), E \rightarrow E.+T\}$

$goto(I_4, T) = I_2$

$goto(I_4, F) = I_3$

$goto(I_4, () = I_4$

$goto(I_4, id) = I_5$

$goto(I_6, T) = I_9 = \{E \rightarrow E+T., T \rightarrow T.*F\}$

$goto(I_6, F) = I_3$

goto(I<sub>6</sub>, C) = I<sub>4</sub>

goto(I<sub>6</sub>, id) = I<sub>5</sub>

goto(I<sub>7</sub>, F) = I<sub>10</sub> = {T → T \* F.}

goto(I<sub>7</sub>, C) = I<sub>4</sub>

goto(I<sub>7</sub>, id) = I<sub>5</sub>

goto(I<sub>8</sub>, C) = I<sub>11</sub> = {F → (E).}

goto(I<sub>8</sub>, +) = I<sub>6</sub>

goto(I<sub>9</sub>, \*) = I<sub>7</sub>

FIRST(F) : {id, (}

FOLLOW(E) : {(\$, +)}

FIRST(+): {id, (}

FOLLOW(T) : {(, \*, ), \$}

FIRST(E) : {id, (}

FOLLOW(F) : {+, \*, ), \$}

C = {I<sub>0</sub>, I<sub>1</sub>, I<sub>2</sub>, I<sub>3</sub>, I<sub>4</sub>, I<sub>5</sub>, I<sub>6</sub>, I<sub>7</sub>, I<sub>8</sub>, I<sub>9</sub>, I<sub>10</sub>, I<sub>11</sub>}

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PE8PE06:AA

Atividade 4

	Ação						Transição			
	+	*	(	)	id	\$	E	A	F	Follow
0			e <sub>4</sub>		e <sub>5</sub>	=	1	2	3	
1	e <sub>6</sub>					AC				
2	R <sub>2</sub>	e <sub>7</sub>		R <sub>2</sub>		R <sub>2</sub>				
3	R <sub>4</sub>	R <sub>4</sub>		R <sub>4</sub>		R <sub>4</sub>				
4			e <sub>4</sub>		e <sub>5</sub>		8	2	3	
5	R <sub>6</sub>	R <sub>6</sub>		R <sub>6</sub>		R <sub>6</sub>				
6			e <sub>4</sub>		e <sub>5</sub>			9	3	
7			e <sub>4</sub>		e <sub>5</sub>				10	
8	e <sub>6</sub>			e <sub>11</sub>						
9	R <sub>2</sub>	e <sub>7</sub>		R <sub>2</sub>		R <sub>2</sub>				
10	R <sub>3</sub>	R <sub>3</sub>		R <sub>3</sub>		R <sub>3</sub>				
11	R <sub>5</sub>	R <sub>5</sub>		R <sub>5</sub>		R <sub>5</sub>				

# b) Table LR(1)

$$C = \{E \rightarrow E, \$, E \rightarrow E + T, \$ / +, E \rightarrow T, \$ / +, T \rightarrow T * F, \$ / + *, T \rightarrow F, \$ / + *, F \rightarrow (E), \$ / + *, F \rightarrow id, \$ / + *\}$$

$$goto(I_0, E) = \{E \rightarrow E, \$, E \rightarrow E + T, \$ / +\} = I_2$$

$$goto(I_0, T) = I_2 = \{E \rightarrow T, \$ / + *, T \rightarrow T * F, \$ / + *\}$$

$$goto(I_0, F) = \{T \rightarrow F, \$ / + *\} = I_3$$

$$goto(I_0, () = \{F \rightarrow (E), \$ / + *, E \rightarrow E + T, ) / +, E \rightarrow T, ) / +, T \rightarrow T * F, ) / + *, T \rightarrow F, ) / + *, F \rightarrow (E), ) / + *, F \rightarrow id, ) / + *\} = I_9$$

$$goto(I_0, id) = \{F \rightarrow id, \$ / + *\} = I_5$$

$$goto(I_1, +) = \{E \rightarrow E + T, \$ / +, T \rightarrow T * F, \$ / + *, T \rightarrow F, \$ / + *, F \rightarrow (E), \$ / + *, F \rightarrow id, \$ / + *\} = I_6$$

$$goto(I_2, *) = \{T \rightarrow T * F, \$ / + *, F \rightarrow (E), \$ / + *, F \rightarrow id, \$ / + *\} = I_7$$

$$goto(I_3, E) = \{F \rightarrow (E), \$ / + *, E \rightarrow E + T, ) / +\} = I_8$$

$$goto(I_4, T) = \{E \rightarrow T, +, T \rightarrow T * F, ) / + *\} = I_9$$

$$goto(I_5, F) = \{T \rightarrow F, ) / + *\} = I_{10}$$

$$goto(I_6, () = \{F \rightarrow (E), ) / + *, E \rightarrow E + T, ) / +, E \rightarrow T, ) / +, T \rightarrow T * F, ) / +, T \rightarrow F, ) / + *, F \rightarrow (E), ) / + *, F \rightarrow id, ) / + *\} = I_{11}$$

$$goto(I_4, id) = \{F \rightarrow id, ) / + *\} = I_{12}$$

$$goto(I_5, T) = \{E \rightarrow E + T, \$ / +, T \rightarrow T * F, \$ / + *\} = I_{13}$$

$$goto(I_6, F) = I_3$$

$$goto(I_6, () = I_4$$

$$goto(I_6, id) = I_5$$

$$goto(I_7, F) = \{T \rightarrow T * F, \$ / + *\} = I_{14}$$

$$goto(I_7, () = I_4$$

$$goto(I_7, id) = I_5$$

$$goto(I_8, ) = \{F \rightarrow (E), \$ / + *\} = I_{15}$$

$$goto(I_8, +) = \{E \rightarrow E + T, ) / +, T \rightarrow T * F, ) / + *, T \rightarrow F, ) / + *, F \rightarrow (E), ) / + *, F \rightarrow id, ) / + *\} = I_{16}$$

$$goto(I_9, *) = \{T \rightarrow T * F, ) / + *, F \rightarrow (E), ) / + *, F \rightarrow id, ) / + *\} = I_{17}$$

$$goto(I_{11}, F) = \{F \rightarrow (E), ) / + *, E \rightarrow E + T, ) / +\} = I_{18}$$



$$goto(I_{11}, T) = I_9$$

$$goto(I_{11}, F) = I_{10}$$

$$goto(I_{11}, \epsilon) = I_{11}$$

$$goto(I_{11}, id) = I_{12}$$

$$goto(I_{13}, \epsilon) = I_7$$

$$goto(I_{15}, T) = \{E \rightarrow E + T, \rangle / +, T \rightarrow T * F, \rangle / + / * \} = I_{19}$$

$$goto(I_{15}, F) = I_{10}$$

$$goto(I_{15}, \epsilon) = I_{11}$$

$$goto(I_{15}, id) = I_{12}$$

$$goto(I_{17}, F) = \{T \rightarrow T * F, \rangle / + / * \} = I_{20}$$

$$goto(I_{17}, \epsilon) = I_{11}$$

$$goto(I_{17}, id) = I_{12}$$

$$goto(I_{18}, \epsilon) = \{F \rightarrow (E), \rangle / + / * \} = I_{21}$$

$$goto(I_{18}, +) = I_{16}$$

$$goto(I_{19}, \epsilon) = I_{17}$$

### c) Tabela LALR

$$I_1 = \{E \rightarrow E, \$, E \rightarrow E + T, \$ / + \}$$

$$I_{29} = \{E \rightarrow T, \$ / + / *, T \rightarrow T * F, \$ / + / * / \}$$

$$I_{30} = \{T \rightarrow F, \$ / + / * / \}$$

$$I_{411} = \{F \rightarrow (E), \$ / + / *, E \rightarrow E + T, \rangle / +, E \rightarrow T, \rangle / +, T \rightarrow T * F, \rangle / + / *, T \rightarrow F, \rangle / + / *, F \rightarrow (E), \rangle / + / *, F \rightarrow id, \rangle / + / * \}$$

$$I_{512} = \{F \rightarrow id, \$ / + / * / \}$$

$$I_{616} = \{E \rightarrow E + T, \rangle / + / *, T \rightarrow T * F, \$ / + / *, T \rightarrow F, \rangle / + / *, F \rightarrow (E), \$ / + / *, F \rightarrow id, \$ / + / * \}$$

$$I_{717} = \{T \rightarrow T * F, \$ / + / *, F \rightarrow (E), \$ / + / *, F \rightarrow id, \$ / + / * \}$$

$$I_{818} = \{F \rightarrow (E), \$ / + / *, E \rightarrow E + T, \rangle / + \}$$

$$I_9 = \{E \rightarrow T, \rangle / +, T \rightarrow T * F, \rangle / + / * \}$$

$$I_{1319} = \{E \rightarrow E + T, \$ / + / *, T \rightarrow T * F, \$ / + / * / \}$$

$$I_{1410} = \{T \rightarrow T * F, \$ / + / * / \}$$

$$I_{1521} = \{F \rightarrow (E), \rangle / + / * / \$ \}$$

B) TABELA LR

	AÇÃO						TRANSIÇÃO		
	+	*	(	)	id	\$	E	T	F
0			E4		E5		1	2	3
1	E6					AC			
2	R2	E7		R2		R2			
3	R4	R4		R2		R4			
4			E11		E12		8	9	10
5	R6	R6		R6		R6			
6			E4		E5			13	3
7			E4		E5				14
8	E16		E15						
9	R2	E17		R2		R2			
10	R4	R4		R4		R4			
11			E11		E12		18	9	10
12	R6	R6		R6		R6			
13	R1	E7	R1			R1			
14	R3	R3		R3		R3			
15	R5	R5		R5		R5			
16			E11		E12			19	10
17			E11		E12				20
18	E16			E21					
19	R1	E17	R1			R1			
20	R3	R3		R3		R3			
21	R5	R5		R5		R5			

C) TABELA LALR

	AÇÃO						TRANSIÇÃO		
	+	*	(	)	id	\$	E	T	F
0			E4		E5		1	2	3
1	E616					AC			
9	R2	E717		R2		R2			
29	R2	E717		R2		R4			
310	R4	R4		R4		R4			
411			E11		E512		8	9	10
512	R6	R6		R6		R6			
616			E411		E512			13	3
717			E411		E512				14
818	E16			E15					
1319	R1	E717	R1				R1		
1420	R3	R3		R3			R3		
1521	R5	R5		R5			R5		

D) Palavra: id \* id

Analizador SLR

PILHA	ENTRADA	AÇÃO
0	id*id \$	E5
0 id 5	*id \$	R6
0 F 3	*id \$	R4
0 F 2	*id \$	E7
0 F 2 id 7	id \$	E5
0 F 2 id 7 id 5	\$	R6
0 F 2 id 7 F 10	\$	R3
0 T 2	\$	R2
0 E 1	\$	Aceito