

ETSIIT

Escuela Técnica Superior
de Ingenierías Informática
y de Telecomunicación



Práctica 4

Modelos de Computación

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I Ejercicio I

Usar JFlap para demostrar que una gramática libre de contexto es ambigua

1. Gramatica

Table Text Size		
LHS		RHS
S	→	1S1
S	→	0S0
S	→	1
S	→	0
S	→	λ

2. Derivation table y arbol de entrada 1

Start Pause Step Derivation Table

Input: 1001100110011001
String accepted! 15 nodes generated.

Input Field Text Size (For optimization, move one of the window size adjusters around this window after resizing the text field)

Table Text Size

LHS		RHS
S	→	1S1
S	→	0S0
S	→	1
S	→	0
S	→	λ

Table Text Size

S	S
1S1	1S1
10S01	10S01
100S001	100S001
1001S1001	1001S1001
10011S11001	10011S11001
100110S011001	100110S011001
1001100S0011001	1001100S0011001
10011001S10011001	10011001S10011001
1001100110011001	1001100110011001

Derived λ from S. Derivations complete.

Start Pause Step Noninverted Tree

Input: 1001100110011001
String accepted! 15 nodes generated.

Input Field Text Size (For optimization, move one of the window size adjusters around this window after resizing the text field)

Table Text Size

LHS		RHS
S	→	1S1
S	→	0S0
S	→	1
S	→	0
S	→	λ

Derived λ from S. Derivations complete.

3. Derivation table y arbol de entrada 1

Start Pause Step Derivation Table

Input 1001100110011001
String accepted! 15 nodes generated.

Input Field Text Size (For optimization, move one of the window size adjustors around this window after resizing the text field)

Table Text Size

LHS		RHS
S	→	1S1
S	→	0
S	→	1
S	→	0S0
S	→	λ

Table Text Size

S
1S1
10S01
100S001
1001S1001
10011S11001
100110S011001
1001100S0011001
10011001S10011001
1001100110011001

Derived λ from S. Derivations complete.

Start Pause Step Noninverted Tree

Input 1001100110011001
String accepted! 15 nodes generated.

Input Field Text Size (For optimization, move one of the window size adjustors around this window after resizing the text field)

Table Text Size

LHS		RHS
S	→	1S1
S	→	0
S	→	1
S	→	0S0
S	→	λ

Derived λ from S. Derivations complete.

4. SLR

Do Selected Do Step Do All Next Parse

Table Text Size

S' → S
S → 1S1
S → 0S0
S → 1
S → 0
S → λ

Parse table complete. Press "parse" to use it.

	FIRST	FOLLOW
S	{0, 1, λ}	{0, 1, \$}

	0	1	\$	S
0	r5	r5	r5	3
1	r4	r4	r4	4
2	r3	r3	r3	5
3				
4	s5		acc	
5		s7		
6	r2	r2	r2	
7	r1	r1	r1	

Table Text Size

5. Chomsky

Table Text Size

LHS RHS

S → 1S1
S → 0S0
S → 1
S → 0
S → 11
S → 00

Convert Selected Do All What's Left? Export

All productions completed.

Table Text Size

Conversion done. Press "Export" to use.

LHS RHS

S → B(1)D(2)
D(2) → SB(1)
S → B(0)D(1)
D(1) → SB(0)
S → 1
S → 0
S → B(1)B(1)
B(1) → 1
S → B(0)B(0)
B(0) → 0