

Universidad Rafael Landívar

Facultad de Ingeniería

Compiladores, sección 02

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PROYECTO FASE No. 3 ANALIZADOR SINTÁCTICO ASCENDENTE (SLR)

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Gramática miniC#

Rediseñando la gramática, se concluyó con la siguiente:

```
S' → Program
1 Program → Decl Program
2 Program → Decl
3 Decl → VariableDecl
4 Decl → FunctionsDecl
5 Decl → ConstDecl
6 Decl → ClassDecl
7 Decl → InterfaceDecl
8 VariableDecl → Variable ;
9 Variable → Type ident
10 ConstDecl → const ConstType ident ;
11 ConstType → int
12 ConstType → double
13 ConstType → bool
14 ConstType → string
15 Type → Type_P Type_R
16 Type' → int
17 Type' → double
18 Type' → bool
19 Type' → string
20 Type' → ident
21 Type' → []
22 Type' → ε
```

```
23 FunctionsDecl → Type ident ( Formals ) StmtBlock
24 FunctionsDecl → void ident ( Formals ) StmtBlock
25 Formals → Variable Formals_P
26 Formals' → , Formals
27 Formals' → ε
28 ClassDecl → class ident ClassDecl_P { ClassDecl_Q }
29 ClassDecl' → : ident ClassDecl_R
30 ClassDecl' → ε
31 ClassDecl' → ClassDecl_O
32 ClassDecl' → ε
33 ClassDecl'' → , ident
34 ClassDecl'' → , ident ClassDecl'
35 ClassDecl'' → Field ClassDecl'''
36 ClassDecl'' → ε
37 Field → VariableDecl
38 Field → FunctionsDecl
39 Field → ConstDecl
40 InterfaceDecl → interface ident { InterfaceDecl' }
41 InterfaceDecl' → Prototype InterfaceDecl'
42 InterfaceDecl' → ε
43 Prototype → Type ident ( Formals ) ;
44 Prototype → void ident ( Formals ) ;
45 StmtBlock → { StmtBlock' StmtBlock''' StmtBlock'' }
46 StmtBlock' → VariableDecl StmtBlock'
47 StmtBlock' → ε
48 StmtBlock' → ConstDecl StmtBlock_R
```

49 StmtBlock'' → ε
50 StmtBlock''' → Stmt StmtBlock_O
51 StmtBlock''' → ε
52 Stmt → IfStmt
53 Stmt → WhileStmt
54 Stmt → Stmt';
55 Stmt → ForStmt
56 Stmt → BreakStmt
57 Stmt → ReturnStmt
58 Stmt → PrintStmt
59 Stmt → StmtBlock
60 Stmt' → Expr
61 Stmt' → ε
62 IfStmt → if (Expr) Stmt IfStmt'
63 IfStmt' → else Stmt
64 IfStmt' → ε
65 WhileStmt → while (Expr) Stmt
66 ForStmt → for (Expr ; Expr ; Expr) Stmt
67 ReturnStmt → return Expr ;
68 BreakStmt → break ;
69 PrintStmt → Console . Writeline (Expr PrintStmt') ;
70 PrintStmt' → , Expr PrintStmt'
71 PrintStmt' → ε
72 Expr → ident = ExprOr
73 Expr → ExprOr
74 ExprOr → ExprOr == ExprOrP

75 ExprOr → ExprOr'
76 ExprOr' → ExprOr' && ExprAnd
77 ExprOrP' → ExprAnd
78 ExprAnd → ExprAnd < ExprAnd'
79 ExprAnd → ExprAnd <= ExprAnd'
80 ExprAnd → ExprAnd'
81 ExprAnd' → ExprAnd' + ExprEquals
82 ExprAnd' → ExprEquals
83 ExprEquals → ExprEquals * ExprEquals'
84 ExprEquals → ExprEquals % ExprEquals'
85 ExprEquals → ExprEquals'
86 ExprEquals' → - ExprComp
87 ExprEquals' → ! ExprComp
88 ExprEquals' → ExprComp
89 ExprComp → ExprComp . ident = ExprComp'
90 ExprComp → ExprComp . ident
91 ExprComp → ExprComp'
92 ExprComp' → (Expr)
93 ExprComp' → this
94 ExprComp' → ident
95 ExprComp' → New (ident)
96 ExprComp' → intConstant
97 ExprComp' → doubleConstant
98 ExprComp' → boolConstant
99 ExprComp' → stringConstant
100 ExprComp' → null

Tabla de Análisis LSR

*******Se encuentra en el Excel adjunto en el repositorio de GitHub*******

- Obteniendo un total de 13 colisiones solucionados dependiendo de la entrada al compilador.