

GRAMATICA:

**Expresiones regulares:**

DECIMAL: r'-?\d+\.\d+'

NUMBER: r'\d+'

CADENA: r"'[^']\*"

ID: r'[a-zA-Z\_][a-zA-Z\_0-9]\*'

**Lista de Terminales**

ADD	INTO
ALTER	KEY
AND	LPAREN
ARROBA	MAYORIQ
AS	MAYORQ
BASE	MENORIQ
BEGIN	MENORQ
BOOL	MINUS
CADENA	NCHAR
CASE	NOT
CAST	NOT1
COLUMN	NULL
COMA	NUMBER
CONCATENA	NVARCHAR
CONTAR	OR
CREATE	PCOMA
DATA	PLUS
DATE	PRIMARY
DATETIME	PROCEDURE
DECIMAL	PUNTO
DECIMAL1	REFERENCES
DECLARE	RETURN
DELETE	RPAREN
DIFERENTE	SELECT
DIVIDE	SET
DROP	SUBSTRAER
ELSE	SUMA
END	TABLE
EQUALS	THEN
EXEC	TIMES
FROM	TRUNCATE
FUNCTION	UPDATE
HOY	USAR
ID	VALUES
IF	WHEN
INSERT	WHERE
INT	

## No terminales usados

alter  
cambios  
campo  
campocambios  
case  
casos  
compartidas  
condicion  
condiciones  
create  
createdb  
defcreate  
delete  
drop  
entradas  
explogicas  
expression  
factor  
factor2  
foranea  
funcion  
funcionesdefinidas  
if  
initial

initial2  
insert  
listacolumn  
llamado  
opespeciales  
parametros  
parametrosi  
procedure  
produccion  
restriccion  
seleccionardb  
select  
selectmultiple  
term  
tipodato  
tooperator  
truncate  
update  
valentradas  
valores  
valorescolumna  
valorvar  
variable

## **REGLAS GRAMATICALES:**

- Rule 0 S' -> initial**
- Rule 1 initial -> produccion initial**
- Rule 2 initial -> produccion**
- Rule 3 seleccionardb -> USAR ID**
- Rule 4 produccion -> create PCOMA**
- Rule 5 produccion -> createdb PCOMA**
- Rule 6 produccion -> compartidas PCOMA**
- Rule 7 produccion -> seleccionardb PCOMA**
- Rule 8 produccion -> funcion**
- Rule 9 produccion -> procedure**
- Rule 10 produccion -> llamado PCOMA**
- Rule 11 compartidas -> insert**
- Rule 12 compartidas -> select**
- Rule 13 compartidas -> update**
- Rule 14 compartidas -> truncate**
- Rule 15 compartidas -> drop**
- Rule 16 compartidas -> alter**
- Rule 17 compartidas -> delete**
- Rule 18 createdb -> CREATE DATA BASE ID**
- Rule 19 create -> CREATE TABLE ID LPAREN defcreate RPAREN**
- Rule 20 defcreate -> campo COMA defcreate**
- Rule 21 defcreate -> campo**
- Rule 22 campo -> ID tipodato restriccion**
- Rule 23 campo -> ID tipodato**
- Rule 24 restriccion -> NOT NULL**
- Rule 25 restriccion -> PRIMARY KEY foranea**
- Rule 26 restriccion -> PRIMARY KEY**
- Rule 27 restriccion -> foranea**
- Rule 28 foranea -> REFERENCES ID LPAREN ID RPAREN**
- Rule 29 tipodato -> INT**
- Rule 30 tipodato -> DECIMAL**
- Rule 31 tipodato -> BOOL**
- Rule 32 tipodato -> NVARCHAR LPAREN NUMBER RPAREN**
- Rule 33 tipodato -> NCHAR LPAREN NUMBER RPAREN**
- Rule 34 tipodato -> DATE**
- Rule 35 tipodato -> DATETIME**
- Rule 36 select -> SELECT funcionesdefinidas**
- Rule 37 select -> SELECT selectmultiple**
- Rule 38 selectmultiple -> listacolumn FROM valores WHERE condiciones**
- Rule 39 selectmultiple -> listacolumn FROM valores**
- Rule 40 listacolumn -> valorescolumna COMA listacolumn**
- Rule 41 listacolumn -> valorescolumna**
- Rule 42 listacolumn -> TIMES**
- Rule 43 valorescolumna -> ID PUNTO ID**
- Rule 44 valorescolumna -> ID**
- Rule 45 valorescolumna -> funcionesdefinidas**
- Rule 46 valorescolumna -> llamado**
- Rule 47 funcionesdefinidas -> CONCATENA LPAREN factor COMA factor RPAREN**
- Rule 48 funcionesdefinidas -> SUBSTRAER LPAREN CADENA COMA NUMBER COMA NUMBER**

Rule 49 funcionesdefinidas -> HOY LPAREN RPAREN  
 Rule 50 funcionesdefinidas -> CONTAR LPAREN TIMES RPAREN FROM ID  
 Rule 51 funcionesdefinidas -> SUMA LPAREN ID RPAREN FROM ID  
 Rule 52 funcionesdefinidas -> CAST  
 Rule 53 alter -> ALTER TABLE ID ADD COLUMN ID tipodato  
 Rule 54 alter -> ALTER TABLE ID DROP COLUMN ID  
 Rule 55 truncate -> TRUNCATE TABLE ID  
 Rule 56 drop -> DROP TABLE ID  
 Rule 57 drop -> DROP COLUMN ID  
 Rule 58 insert -> INSERT INTO ID parametrosi VALUES entradas  
 Rule 59 parametrosi -> LPAREN valores RPAREN  
 Rule 60 entradas -> LPAREN valentradas RPAREN  
 Rule 61 valentradas -> expression COMA valentradas  
 Rule 62 valentradas -> expression  
 Rule 63 valores -> ID COMA valores  
 Rule 64 valores -> ID  
 Rule 65 update -> UPDATE ID SET cambios WHERE ID EQUALS expression  
 Rule 66 update -> UPDATE ID SET cambios WHERE condiciones  
 Rule 67 cambios -> campocambios COMA cambios  
 Rule 68 cambios -> campocambios  
 Rule 69 campocambios -> ID EQUALS expression  
 Rule 70 delete -> DELETE FROM ID WHERE ID EQUALS expression  
 Rule 71 variable -> DECLARE ARROBA ID tipodato  
 Rule 72 variable -> SET ARROBA ID EQUALS valorvar  
 Rule 73 valorvar -> expression  
 Rule 74 valorvar -> funcionesdefinidas  
 Rule 75 initial2 -> opespeciales initial2  
 Rule 76 initial2 -> opespeciales  
 Rule 77 opespeciales -> if PCOMA  
 Rule 78 opespeciales -> variable PCOMA  
 Rule 79 opespeciales -> compartidas PCOMA  
 Rule 80 opespeciales -> case PCOMA  
 Rule 81 funcion -> CREATE FUNCTION ID LPAREN parametros RPAREN RETURN  
 tipodato AS BEGIN initial2 RETURN expression PCOMA END  
 Rule 82 parametros -> ARROBA ID tipodato COMA parametros  
 Rule 83 parametros -> ARROBA ID tipodato  
 Rule 84 procedure -> CREATE PROCEDURE ID LPAREN parametros RPAREN AS  
 BEGIN initial2 END  
 Rule 85 llamado -> EXEC ID entradas  
 Rule 86 llamado -> ID entradas  
 Rule 87 llamado -> ID LPAREN RPAREN  
 Rule 88 if -> IF LPAREN condiciones RPAREN BEGIN initial2 END  
 Rule 89 if -> IF LPAREN condiciones RPAREN BEGIN initial2 END ELSE BEGIN initial2  
 END  
 Rule 90 condiciones -> condicion  
 Rule 91 condiciones -> condicion explogicas condiciones  
 Rule 92 condicion -> expression toperador expression  
 Rule 93 toperador -> EQUALS  
 Rule 94 toperador -> DIFERENTE  
 Rule 95 toperador -> MAYORQ  
 Rule 96 toperador -> MENORQ  
 Rule 97 toperador -> MAYORIQ

**Rule 98** toperador -> MENORIQ  
**Rule 99** explogicas -> AND  
**Rule 100** explogicas -> OR  
**Rule 101** explogicas -> NOT1  
**Rule 102** case -> CASE casos END  
**Rule 103** case -> CASE casos ELSE THEN initial2 END  
**Rule 104** casos -> WHEN condiciones THEN initial2 casos  
**Rule 105** casos -> WHEN condiciones THEN initial2  
**Rule 106** expression -> expression PLUS term  
**Rule 107** expression -> expression MINUS term  
**Rule 108** expression -> term  
**Rule 109** term -> term TIMES factor2  
**Rule 110** term -> term DIVIDE factor2  
**Rule 111** term -> factor2  
**Rule 112** factor2 -> LPAREN expression RPAREN  
**Rule 113** factor2 -> factor  
**Rule 114** factor -> NUMBER  
**Rule 115** factor -> DECIMAL1  
**Rule 116** factor -> CADENA  
**Rule 117** factor -> ARROBA ID  
**Rule 118** factor -> ID PUNTO ID  
**Rule 119** factor -> ID