**UNIVERSIDAD DE SAN CARLOS DE GUATEMALA**

**CENTRO UNIVERSITARIO DE OCCIDENTE**

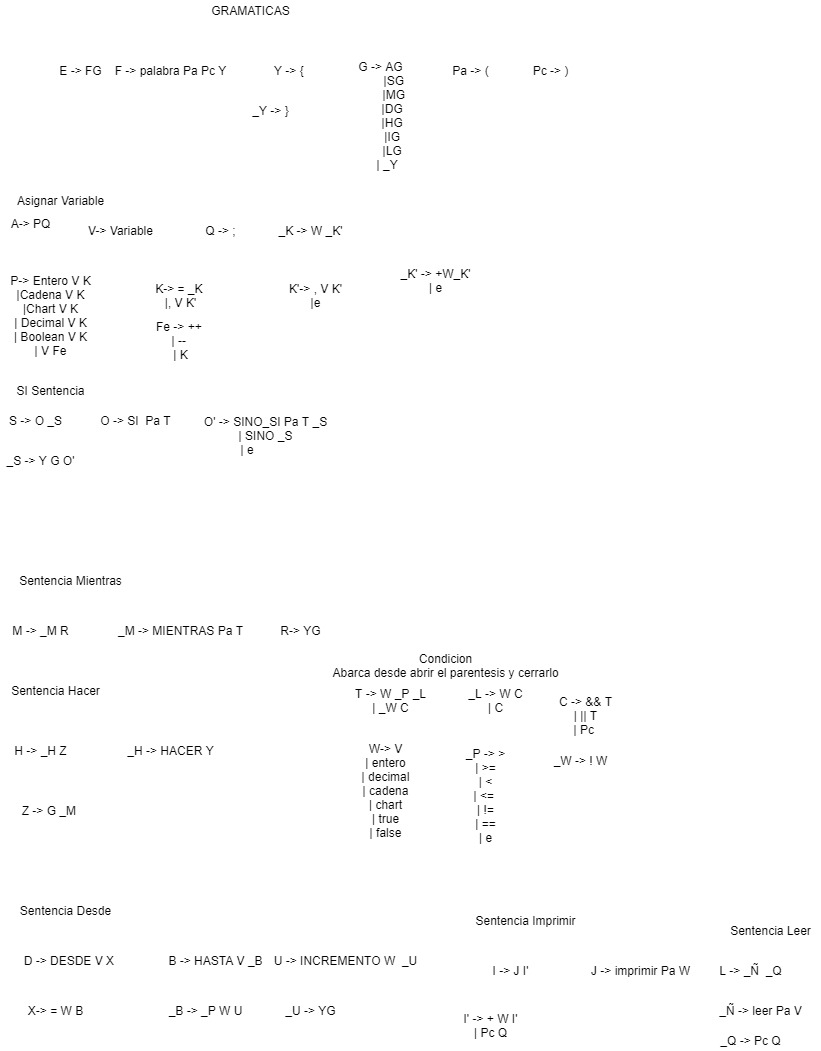
**ANALIZADOR SINTÁCTICO**

**DEFINICIÓN FORMAL**

G = ( N, T, P, S)

|  |  |
| --- | --- |
| N | * E * F * Y * \_Y * G * Pa * Pc * A * P * \_L * V * K * Q * K’ * \_K * \_K’ * S * \_S * O * O’ * M * \_M * R * H * \_H * Z * T * \_W * W * \_P * C * D * X * B * \_B * U * \_U * I * I’ * J * L * \_Ñ * \_Q * Fe |
| T | * **Entero** * **Cadena** * **Chart** * **Decimal** * **Boolean** * **SI** * **SINO\_SI** * **SINO** * **MIENTRAS** * **HACER** * **DESDE** * **HASTA** * **INCREMENTO** * **Imprimir** * **Leer** * **(** * **)** * **{** * **}** * **palabra** * **entero** * **string** * **char** * **decimal** * **True** * **False** * **Variable** * **=** * **==** * **,** * **;** * **+** * **++** * **-** * **--** * **>** * **>=** * **<** * **<=** * **¡** * **¡=** * **&&** * **||** |
| S | E |
| P |  |

P



**Cálculo de Primeros**



**Cálculo de Siguientes**



**Tabla de Transiciones**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Entero | Cadena | Chart | Decimal | Boolean | SI | SINO\_SI | SINO | MIENTRAS | HACER | DESDE | HASTA | INCREMENTO | IMPRIMIR | LEER | { | } | ( | ) | Palabra | entero | string | char' | decimal | true | false | variable | = | == | , | ; | + | > | >= | < | <= | ! | ! = | && | || | ++ | -- | $ |
| 1 | E |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | FG |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | F |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Palabra Pa Pc Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | { |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | \_Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | } |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | G | AG | AG | AG | AG | AG | SG |  |  | MG | HG | DG |  |  | IG | LG |  | \_Y |  |  |  |  |  |  |  |  |  | A G |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | Pa |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ( |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | Pc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | A | PQ | PQ | PQ | PQ | PQ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | P Q |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | P | Entero VK | Cadena VK | Chart VK | Decimal VK | Boolean VK |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | V Fe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | \_L |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | C |  | WC | WC | WC | WC | WC | WC | WC |  |  |  |  |  |  |  |  |  |  |  | C | C |  |  |  |
| 11 | V |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Variable |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | K |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | =\_K |  | ,V K' |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | Q |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ; |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | K' |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ,V K' | e |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | \_K |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | W \_K' | W \_K' | W \_K' | W \_K' | W \_K' | W \_K' | W \_K' |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | \_K' |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | e | + W \_K' |  |  |  |  |  |  |  |  |  |  |  |
| 17 | S |  |  |  |  |  | O \_S |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | \_S |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | YGO' |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | O |  |  |  |  |  | SI Pa T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | O' | e | e | e | e | e | e | SINO\_SI Pa T\_S | SINO \_S | e | e | e |  |  | e | e |  | e |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | M |  |  |  |  |  |  |  |  | \_M R |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | \_M |  |  |  |  |  |  |  |  | MIENTRAS Pa T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | R |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | YG |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | H |  |  |  |  |  |  |  |  |  | \_H Z |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | \_H |  |  |  |  |  |  |  |  |  | HACER Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26 | Z | G\_M | G\_M | G\_M | G\_M | G\_M | G\_M |  |  | G\_M | G\_M | G\_M |  |  | G\_M | G\_M |  | G\_M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | W\_P\_L | W\_P\_L | W\_P\_L | W\_P\_L | W\_P\_L | W\_P\_L | W\_P\_L |  |  |  |  |  |  |  |  |  | \_W C |  |  |  |  |  |  |
| 28 | \_W |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ! W |  |  |  |  |  |  |
| 29 | W |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | entero | cadena | chart | decimal | false | false | V |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | \_P |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | e |  |  |  |  |  |  |  |  |  | == |  |  |  | > | >= | < | <= |  | != |  |  |  |  |  |
| 31 | C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Pc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | && T | || T |  |  |  |
| 32 | D |  |  |  |  |  |  |  |  |  |  | DESDE VX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 33 | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | =W B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 34 | B |  |  |  |  |  |  |  |  |  |  |  | Hasta V \_B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35 | \_B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \_P W U |  |  |  | \_P W U | \_P W U | \_P W U | \_P W U |  | \_P W U |  |  |  |  |  |
| 36 | U |  |  |  |  |  |  |  |  |  |  |  |  | INCREMENTO W \_U |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 37 | \_U |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Y G |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 38 | I |  |  |  |  |  |  |  |  |  |  |  |  |  | J I' |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 39 | I' |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Pc Q |  |  |  |  |  |  |  |  |  |  |  |  | + W I' |  |  |  |  |  |  |  |  |  |  |  |
| 40 | J |  |  |  |  |  |  |  |  |  |  |  |  |  | IMPRIMIR Pa W |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41 | L |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \_Ñ \_Q |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 42 | \_Ñ |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Leer Pa V |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 43 | \_Q |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Pc Q |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Fe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Pc Q |  |  |  |  |  |  |  |  | K |  |  |  |  |  |  |  |  |  |  |  |  |  | ++ | -- |