文法

| S | S’ | P | P’ | E | E’ | M | K | K’ | T | T’ | F |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S->E;S’ | S’->E;S’ | P->MP’ | P’->,MP’ | E->ME’ | E’->,ME’ | M->K | K->TK’ | K’->+TK’ | T->FT’ | T’->\*FT’ | F->Num |
| S-> | S’-> | P-> | P'-> |  | E'-> | M->K?K:K |  | K’->-TK’ |  | T’->/FT’ | F->Str |
|  |  |  |  |  |  |  |  | K'-> |  | T'-> | F->(E) |
|  |  |  |  |  |  |  |  |  |  |  | F->Iden |
|  |  |  |  |  |  |  |  |  |  |  | F->Iden(P) |

First集、Follow集、Nullable

|  | Nullable | First | Follow |
| --- | --- | --- | --- |
| S | true | Num Str ( Iden |  |
| S’ | true | Num Str ( Iden |  |
| P | true | Num Str ( Iden | ) |
| P’ | true | , | ) |
| E | false | Num Str ( Iden | ; ) |
| E’ | true | , | ; ) |
| M | false | Num Str ( Iden | , ; ) |
| K | false | Num Str ( Iden | ? : , ; ) |
| K’ | true | + - | ? : , ; ) |
| T | false | Num Str ( Iden | + - ? : , ; ) |
| T’ | true | \* / | + - ? : , ; ) |
| F | false | Num Str ( Iden | \* / + - ? : , ; ) |

预测分析器

|  | + | - | \* | / | ; | ? | : | Num | Str | Iden | ( | ) | , | empty |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S |  |  |  |  |  |  |  | S->E;S’ | S->E;S’ | S->E;S’ | S->E;S’ |  |  | end |
| S’ |  |  |  |  |  |  |  | S’->E;S’ | S’->E;S’ | S’->E;S’ | S’->E;S’ |  |  | end |
| E |  |  |  |  |  |  |  | E->ME’ | E->ME’ | E->ME’ | E->ME’ |  |  |  |
| E’ |  |  |  |  | E’-> |  |  |  |  |  |  | E’-> | E’->,ME’ |  |
| M |  |  |  |  |  |  |  | M->K  M->K?K:K | M->K  M->K?K:K | M->K  M->K?K:K | M->K  M->K?K:K |  |  |  |
| K |  |  |  |  |  |  |  | K->TK’ | K->TK’ | K->TK’ | K->TK’ |  |  |  |
| K’ | K’->+TK’ | K’->-TK’ |  |  | K'-> | K'-> | K'-> |  |  |  |  | K'-> | K'-> |  |
| T |  |  |  |  |  |  |  | T->FT’ | T->FT’ | T->FT’ | T->FT’ |  |  |  |
| T’ | T'-> | T'-> | T’->\*FT’ | T’->/FT’ | T'-> | T'-> | T'-> |  |  |  |  | T'-> | T'-> |  |
| F |  |  |  |  |  |  |  | F->Num | F->Str | F->Iden  F->Iden(P) | F->(E) |  |  |  |
| P |  |  |  |  |  |  |  | P->MP’ | P->MP’ | P->MP’ | P->MP’ | P-> |  |  |
| P’ |  |  |  |  |  |  |  |  |  |  |  | P'-> | P’->,MP’ |  |

抽象语法