Tokens Lexema

|  |  |
| --- | --- |
| Tk\_MAIN | main |
| TK\_IF | se |
| TK\_ELSE | senao |
| TK\_WHILE | enq |
| TK\_OPER | +,-,/,\*,... |
| TK\_FOR | para |
| TK\_ATRIB | := |
| TK\_ID | a,i,j,aa,abc,... |
| TK\_COMP | :: |
| TK\_VRG | , |
| TK\_NUM | 1,2,3,4,999,8586,0,0.5,... |
| TK\_APAR | ( |
| TK\_FPAR | ) |
| TK\_COMENT | || |
| TK\_AND | @ |
| TK\_OR | $ |
| TK\_NULL | vazio |
| TK\_ASPAS | “ |
| TK\_ACOL | [ |
| TK\_FCOL | ] |
| TK\_ACHAVE | { |
| TK\_FCHAVE | } |
| TK\_ACOMENT | |: |
| TK\_FCOMENT | :| |
| TK\_FINALLINHA | ; |
| TK\_NEGAR | ! |
| TK\_MAIOR | > |
| TK\_MENOR | < |
| TK\_MAIORIGUAL | >= |
| TK\_MENORIGUAL | <= |
| TK\_DIFERENTE | !! |
| TK\_INT | inteiro |
| TK\_DOUBLE | double |
| TK\_CHAR | caracter |
| TK\_STRING | texto |
| TK\_BOOL | bl |
| TK\_TRUE | verdadeiro |
| TK\_FALSE | falso |

**COMANDS**

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CMD\_MAIN -> TK\_MAIN TK\_ACHAVE comandos TK\_FCHAVE

comandos: CMD comandos | CMD

CMD CMD\_ATRIB | CMD\_DECL | CMD\_IF | CMD\_FOR | CMD\_WHILE

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CMD\_ATRIB -> TK\_ID TK\_ATRIB (TK\_NUM | TK\_ID | TK\_TRUE | TK\_FALSE | comandoatrib) TK\_FINALLINHA

comandoatrib: (TK\_NUM | TK\_ID ) TK\_OPER (TK\_NUM | TK\_ID ) | TK\_OPER (TK\_NUM|TK\_ID) | comandoatrib

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CMD\_DECL -> (comandotipo CMD\_ATRIB) | ( comandotipo TK\_ID TK\_FINALLINHA) | (comandotipo TK\_ID TK\_VRG CMD\_DECL ) | (comandotipo TK\_ID TK\_ATRIB comandoatrib TK\_VRG CMD\_DECL TK\_FINALLINHA)

comandotipo: TK\_INT | TK\_DOUBLE | TK\_CHAR | TK\_STRING | TK\_BOOL

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CMD\_IF-> TK\_IF TK\_APAR condicao TK\_FPAR ((TK\_ACHAVE comandos TK\_FCHAVE) | (TK\_ACHAVE comandos TK\_FCHAVE TK\_ELSE TK\_ACHAVE comandos TK\_FCHAVE))

condicao: ((TK\_ID|TK\_NUM) comparacao (TK\_ID | TK\_TRUE | TK\_FALSE | TK\_NUM) ) | condicao (TK\_AND| TK\_OR) condicao

comparacao: TK\_COMP | TK\_MAIOR | TK\_MENOR | TK\_MAIORIGUAL | TK\_MENORIGUAL

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CMD\_FOR-> TK\_FOR TK\_APAR declFor TK\_FINALLINHA condicaoFor TK\_FINALLINHA atribFor TK\_FPAR TK\_ACHAVE comandos TK\_FCHAVE

declFor: (((TK\_INT | TK\_DOUBLE ) TK\_ID TK\_ATRIB comandoatrib) | (TK\_ID TK\_ATRIB comandoatrib) ) | declFor TK\_VRG declFor

condicaoFor: ((TK\_ID| TK\_NUM) comparacao (TK\_ID | TK\_TRUE | TK\_FALSE | TK\_NUM)) | condicaoFor (TK\_AND | TK\_OR) condicaoFor

atribFor: (TK\_ID TK\_ATRIB (TK\_NUM | TK\_ID | TK\_TRUE | TK\_FALSE | comandoatrib) ) | (atribFor TK\_VRG atribFor)

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CMD\_WHILE -> TK\_WHILE TK\_APAR condicaoFor TK\_FPAR TK\_ACHAVE comandos TK\_FCHAVE

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**FIRST**

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First(CMD\_MAIN) -> {TK\_MAIN}

First(CMD) -> {TK\_ID , ( TK\_INT, TK\_DOUBLE, TK\_CHAR, TK\_STRING, TK\_BOOL) , TK\_IF , TK\_FOR , TK\_WHILE}

First(comandos) -> {TK\_ID , ( TK\_INT, TK\_DOUBLE, TK\_CHAR, TK\_STRING, TK\_BOOL) , TK\_IF , TK\_FOR , TK\_WHILE}

First(comandoatrib) -> {TK\_NUM, TK\_ID, TK\_OPER}

First(CMD\_DECL) -> {TK\_INT, TK\_DOUBLE, TK\_CHAR, TK\_STRING, TK\_BOOL}

First(comandotipo) -> {TK\_INT, TK\_DOUBLE, TK\_CHAR, TK\_STRING, TK\_BOOL}

First(CMD\_ATRIB) -> {TK\_ID}

First(CMD\_IF) -> {TK\_IF}

First(condicao)-> {TK\_ID,TK\_NUM}

First(comparacao)-> {TK\_COMP , TK\_MAIOR , TK\_MENOR , TK\_MAIORIGUAL , TK\_MENORIGUAL}

First(CMD\_FOR) -> {TK\_FOR}

First(declFor)-> {TK\_INT, TK\_DOUBLE, TK\_ID}

First(condicaoFor)-> {TK\_ID, TK\_NUM}

First(atribFor)-> {TK\_ID}

First(CMD\_WHILE) -> {TK\_WHILE}

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**FOLLOW**

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Follow(CMD\_MAIN) -> {VAZIO}

Follow(CMD) -> {TK\_FCHAVE, TK\_ID , ( TK\_INT, TK\_DOUBLE, TK\_CHAR, TK\_STRING, TK\_BOOL) , TK\_IF , TK\_FOR , TK\_WHILE}

Follow(comandos) -> {TK\_FCHAVE}

Follow(comandoatrib) -> {TK\_FINALLINHA}

Follow(CMD\_DECL) -> {TK\_FINALLINHA}

Follow(comandotipo) -> {TK\_ID}

Follow(CMD\_ATRIB) -> {VAZIO}

Follow(CMD\_IF) -> {VAZIO}

Follow(condicao)-> {TK\_FPAR}

Follow(comparacao)-> {TK\_ID , TK\_TRUE , TK\_FALSE , TK\_NUM}

Follow(CMD\_FOR) -> {VAZIO}

Follow(declFor)-> {TK\_FINALLINHA , TK\_VRG}

Follow(condicaoFor)-> {TK\_AND , TK\_OR, TK\_FINALLINHA}

Follow(atribFor)-> {TK\_FINALLINHA , TK\_FPAR}

Follow(CMD\_WHILE) -> {VAZIO}