ReadExpression → **read** ( **ID in ID** ) **do** StatementList

StatementList → StatementList ; Statement | Statement

Statement → **ID** = **CONST**

Eliminisanje direktnih levih rekurzija:

*X* → *X*α | β

*X* → β*X’*

*X’* → α*X’* | ε

Skup smena:

StatementList → StatementList ; Statement | Statement

X → StatementList

α → ; Statement

β → Statement

X’ → StatementList’

Skup smena nakon transformacije:

StatementList → Statement StatementList’

StatementList’ → ; Statement StatementList’

StatementList’ → **ε**

Transformisani skup smena:

(1) ReadExpression **→** **read** ( **ID in ID** ) **do** StatementList

(2) StatementList **→** Statement StatementList’

(3) StatementList’ **→** ; Statement StatementList’

(4) StatementList’ **→** **ε**

(5) Statement **→** **ID** = **CONST**

**FIRST**

|  |  |  |
| --- | --- | --- |
| R. Br. | Smena | First (Smena) |
| (1) | *ReadExpression* → read ( ID in ID ) do *StatementList* | FIRST (read ( ID in ID ) do *StatementList*) = { read } |
| (2) | *StatementList* → *Statement StatementList’* | FIRST (*Statement StatementList’*) = FIRST (ID = CONST) = { ID } |
| (3) | *StatementList’* → ; *Statement StatementList’* | FIRST (; *Statement StatementList’*) = { ; } |
| (4) | *StatementList’* → ε |  |
| (5) | *Statement* → ID = CONST | FIRST (ID = CONST) = { ID } |

**FOLLOW**

**∪ ⊂ ∈**

**ReadExpression: FOLLOW(ReadExpression) = { # }**

# ∈ FOLLOW(ReadExpression)

**StatementList: FOLLOW(StatementList) = { # }**

1. FOLLOW(ReadExpression) ⊂ FOLLOW(StatementList)

**StatementList’: FOLLOW(StatementList’) = { # }**

1. FOLLOW(StatementList) ⊂ FOLLOW(StatementList’)
2. FOLLOW(StatementList’) ⊂ FOLLOW(StatementList’)

**Statement: FOLLOW(Statement) = { ; , #}**

(2) FIRST(StatementList’) ⊂ FOLLOW (Statement)

(2) StatementList → Statement =>

=> FOLLOW(StatementList) ⊂ FOLLOW(Statement)

(3) FIRST(StatementList’) ⊂ FOLLOW (Statement)

(3) StatementList’ → ; Statement =>

=> FOLLOW(StatementList’) ⊂ FOLLOW(Statement)

Smena 1 :

FIRST (read ( ID in ID ) do StatementList) = { read }

Smena 2 :

FIRST (Statement StatementList’) = FIRST (Statement) = { ID }

Smena 3 :

FIRST (; Statement StatementList’) = { ; }

Smena 4:

FIRST( ε ) = { ε }, tražimo FOLLOW funkciju za simbol sa leve strane smene.

FOLLOW(StatementList) = { # }

Smena 5:

FIRST (ID = CONST) = { ID }

**• Sintaksna tabela:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Simbol na vrhu magacina | Ulazni simbol | | | | | | | | | |
| read | ( | ID | in | ) | do | ; | = | CONST | # |
| *ReadExp* | (read ( ID in ID ) do *StatList, 1)* |  |  |  |  |  |  |  |  |  |
| *StatList* |  |  | *(Statmnt StatList’, 2)* |  |  |  |  |  |  |  |
| *StatList’* |  |  |  |  |  |  | (;*Statmnt StatList’*, 3) |  |  | (ε, 4) |
| *Statmnt* |  |  | (ID = CONST, 5) |  |  |  |  |  |  |  |
| read | pop |  |  |  |  |  |  |  |  |  |
| ( |  | pop |  |  |  |  |  |  |  |  |
| ID |  |  | pop |  |  |  |  |  |  |  |
| in |  |  |  | pop |  |  |  |  |  |  |
| ) |  |  |  |  | pop |  |  |  |  |  |
| do |  |  |  |  |  | pop |  |  |  |  |
| ; |  |  |  |  |  |  | pop |  |  |  |
| = |  |  |  |  |  |  |  | pop |  |  |
| CONST |  |  |  |  |  |  |  |  | pop |  |
| # |  |  |  |  |  |  |  |  |  | acc |

**• Postupak sintaksne analize**

**Radni magacin Ulazni simbol akcija**

*ReadExp* # read smena 1

read ( ID in ID ) do *StatList* #read pop

( ID in ID ) do *StatList* # ( pop

ID in ID ) do *StatList* #ID pop

in ID ) do *StatList* #in pop

ID ) do *StatList* # ID pop

) do *StatList* # ) pop

do *StatList* # do pop

*StatList* # ID smena 2

*Statmnt StatList’* #ID smena 5

ID = CONST *StatList’* #IDpop

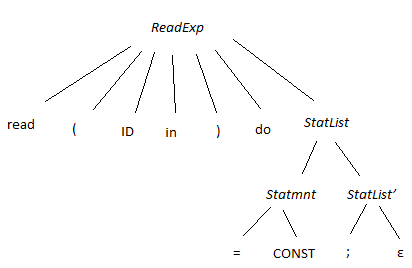
= CONST *StatList’* # = pop

CONST  *StatList’* # CONST pop

*StatList’* ##smena 4

# # acc

**• Sintaksno stablo**

****