Programski Prevodioci

# Druga Laboratorijska Vežba

## Grupa 8

Statements Statements ; Statement | StatementStatement Assignment | WhileStatementAssignment ID = Term | ID = Term + TermWhileStatement repeat ( Term ) { Statements }Term ID | CONST

1. Statements Statements ; Statement
2. Statements Statement
3. Statement Assignment
4. Statement WhileStatement
5. Assignment ID = Term
6. Assignment ID = Term + Term
7. WhileStatement repeat ( Term ) { Statements }
8. Term ID
9. *Term* CONST
10. Ss Ss ; S
11. Ss S
12. S A
13. S WS
14. A ID = T
15. A ID = T + T
16. WS repeat ( T ) { Ss }
17. T ID
18. *T* CONST

### **Kreiranje kanoničkog skupa LR pravila**

*l0*:

Ss’ **.** Ss

Ss **.** Ss **;** S

Ss **.** S

S **.** A

S **.**WS

A **.** **ID** **=** T

A **.** **ID** **=** T **+** T

WS **.** **repeat** **(** T **)** **{** Ss **}**

l1 = goto( *l0*, Ss ):

Ss’ Ss **.**

SS SS **.** **;** S

l2 = goto( l1, **;** ):

Ss SS **;** **.** S

S **.** A

S **.**WS

A **.** **ID** **=** T

A **.** **ID** **=** T **+** T

WS **.** **repeat** **(** T **)** **{** Ss **}**

l3 = goto( l2, S ):

Ss SS **;** S **.**

**Redukciono stanje za smenu (1)**l4 = goto( l0, S ):

Ss S **.**

**Redukciono stanje za smenu (2)**

l5 = goto( l0, A ):

S A **.**

**Redukciono stanje za smenu (3)**

l6 = goto( l0, WS ):

S WS **.**

**Redukciono stanje za smenu (4)**l7 = goto( l0, **ID** ):

A **ID . =** T

A **ID . =** T + Tl8 = goto( l7, **=** ):

A **ID = .** T

A **ID = .** T **+** T

T **.** ID

*T* **.** CONSTl9 = goto( l8, T ):

A **ID =** T **.**

**Redukciono stanje za smenu (5)**

A **ID =** T **.** **+** T

*l10* = goto( *l9,* +):

A **ID =** T **+** **.** T

T **.** ID

*T* **.** CONST

*l11* = goto( *l10*, *T* ):

A **ID =** T **+** T **.**

**Redukciono stanje za smenu (6)**

*l12* = goto( *l8*, ID ):

T ID .

Redukciono stanje za smenu (8)

*l13* = goto( *l8*, CONST ):

T CONST .

Redukciono stanje za smenu (9)*l14* = goto( *l0,* repeat ):

WS **repeat .** **(** T **)** **{** Ss **}**

*l15* = goto( *l14,* ( ):

WS **repeat ( .** T **)** **{** Ss **}**

T **.** ID

*T* **.** CONST

*l16* = goto( *l15, T* ):

WS **repeat (** T **. )** **{** Ss **}***l17* = goto( *l16,* ) ):

WS **repeat (** T **) .** **{** Ss **}**

*l18* = goto( *l17,* { ):

WS **repeat (** T **)** **{ .** Ss **}**

Ss **.** Ss **;** S

Ss **.** S

S **.** A

S **.**WS

A **.** **ID** **=** T

A **.** **ID** **=** T **+** T

WS **.** **repeat** **(** T **)** **{** Ss **}**

*l19* = goto( *l18, Ss* ):

WS **repeat (** T **)** **{** Ss **. }***l20* = goto( *l19,* } ):

WS **repeat (** T **)** **{** Ss **} .**

**Redukciono stanje za smenu (7)**

l1 = goto ( l18, Ss )

l4 = goto ( l18, S )

l5 = goto ( l2, A )

l5 = goto( l18, A )

l6 = goto( l2, WS )

l6 = goto ( l18, WS)

l7 = goto ( l2, **ID** )

l7 = goto( l18, **ID** )

l12 = goto( l15, **ID** )

l12 = goto( l10, **ID** )

l13 = goto( l10, **CONST** )

l13 = goto( l15, **CONST** )

l14 = goto( l2, **repeat** )

l14 = goto( l18, **repeat** )

### **Crtanje grafa prelaza konačnog automata za prepoznavanje vidljivih prefiksa**

### **Popunjavanje LR sintaksne tabele**

Pomoćna tabela Follow(A) i First(α) funkcija za konkretne smene

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Redni broj smene | Redukciono stanje | A α | FOLLOW(A) | FIRST(α) |
| 0. | l1 | Ss’ Ss | **#** | **ID repeat** |
| 1. | l3 | Ss Ss **;** S | **# ; }** | **ID repeat** |
| 2. | l4 | Ss S | **# ; }** | **ID repeat** |
| 3. | l5 | S A | **# ; }** | **ID** |
| 4. | l6 | S WS | **# ; }** | **repeat** |
| 5. | l9 | A **ID =** T | **# ; }** | **ID** |
| 6. | l11 | A **ID =** T **+** T | **# ; }** | **ID** |
| 7. | l12 | T ID | **# ; } + )** | **ID** |
| 8. | l13 | T CONST | **# ; } + )** | **CONST** |
| 9. | l20 | WS **repeat (** T **)** **{** Ss **}** | **# ; }** | **repeat** |

**LR sintaksna tabela**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | AKCIJE | | | | | | | | | | PRELAZI | | | | |
|  | **;** | **ID** | | **=** | **+** | **CONST** | **repeat** | **(** | **)** | **{** | **}** | **#** | *Ss* | *S* | *A* | *T* | *WS* |
| 0 |  | **s7** | |  |  |  | **s14** |  |  |  |  |  | **1** | **4** | **5** |  | **6** |
| 1 | **s2** |  | |  |  |  |  |  |  |  |  | **acc** |  |  |  |  |  |
| 2 |  | **s7** | |  |  |  | **s14** |  |  |  |  |  |  |  | **5** |  | **6** |
| 3 | **r1** |  | |  |  |  |  |  |  |  | **r1** | **r1** |  |  |  |  |  |
| 4 | **r2** |  | |  |  |  |  |  |  |  | **r2** | **r2** |  |  |  |  |  |
| 5 | **r3** |  | |  |  |  |  |  |  |  | **r3** | **r3** |  |  |  |  |  |
| 6 | **r4** |  | |  |  |  |  |  |  |  | **r4** | **r4** |  |  |  |  |  |
| 7 |  |  | | **s8** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  | **s12** | |  |  | **s13** |  |  |  |  |  |  |  |  |  | **9** |  |
| 9 | **r5** |  | |  | **s10** |  |  |  |  |  | **r5** | **r5** |  |  |  |  |  |
| 10 |  | **s12** | |  |  | **s13** |  |  |  |  |  |  |  |  |  | **11** |  |
| 11 | **r6** |  | |  |  |  |  |  |  |  | **r6** | **r6** |  |  |  |  |  |
| 12 | **r7** |  | |  | **r7** |  |  |  | **r7** |  | **r7** | **r7** |  |  |  |  |  |
| 13 | **r8** |  | |  | **r8** |  |  |  | **r8** |  | **r8** | **r8** |  |  |  |  |  |
| 14 |  |  | |  |  |  |  | **s15** |  |  |  |  |  |  |  |  |  |
| 15 |  | **s12** | |  |  | **s13** |  |  |  |  |  |  |  |  |  | **16** |  |
| 16 |  |  | |  |  |  |  |  | **s17** |  |  |  |  |  |  |  |  |
| 17 |  |  | |  |  |  |  |  |  | **s18** |  |  |  |  |  |  |  |
| 18 |  | **s7** | |  |  |  | **s14** |  |  |  |  |  | **1?19** | **4** | **5** |  | **6** |
| 19 |  |  | |  |  |  |  |  |  |  | **s20** |  |  |  |  |  |  |
| 20 | **r9** |  | |  |  |  |  |  |  |  | **r9** | **r9** |  |  |  |  |  |