**Лабораторная работа №11**

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**Вариант № 8**

Регулярное выражение:

return(□)\*(begin□+(calc|print);)+ □\*end;

Цепочки:

1. return □□ begin □ calc; begin □□ print; end; abbcbdgcbbegfg
2. return begin □print; end; acbegfg
3. return begin □ calc; begin □ print; end; acbegcbegfg
4. return □□ begin □ calc; begin □□ print; □ end; abbcbdgcbbegbfg
5. return begin □ print; □ end; acbegbfg
6. return □□ begin □print; begin□□ print; □□□ end; abbcbegcbbegbbbfg
7. return □ begin □□calc; begin □□calc; end; abcbbdgcbbdgfg

Пусть:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| a | b | c | d | e | f | g |
| return | □ | begin | calc | print | end | ; |

Тогда:

Регулярное выражение:

ab\*(cb+(d+e)g)+b\*fg

Диаграмма конечного автомата:

R=({s0,s1,s2,s3,s4,s5,sf},{a,b,c,d,e,f,g}, δ, s0, {sf})

δ: [ Пометка: λ – пустое множество, Ø – пустой переход]

return(□)\*(begin□+(calc|print);)+ □\*end;

ab\*(cb+(d+e)g)+b\*fg

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | b | c | d | e | f | g | λ |
| S0 | S1 | Ø | Ø | Ø | Ø | Ø | Ø | Ø |
| S1 | Ø | S1 | S2 | Ø | Ø | Ø | Ø | Ø |
| S2 | Ø | S3 | Ø | Ø | Ø | Ø | Ø | Ø |
| S3 | Ø | S3 | Ø | S4 | S4 | Ø | Ø | Ø |
| S4 | Ø | Ø | Ø | Ø | Ø | Ø | S5 | Ø |
| S5 | Ø | S5 | Ø | Ø | Ø | S6 | Ø | S1 |
| S6 | Ø | Ø | Ø | Ø | Ø | Ø | SF | Ø |
| SF | Ø | Ø | Ø | Ø | Ø | Ø | Ø | Ø |

2) return begin □print; end;

acbegfg

acbegfg S1

cbegfg S2

begfg S3

egfg S4

gfg S5

fg S6

g SF

Успешный разбор!

Граф состояний конечного автомата:

ab\*(cb+(d+e)g)+b\*fg

c

g

g

g

f

c

a

SF

S5

S4

S3

S2

S1

S0

b

b

e

d

b

e

d

b

b

f

λ

c

e

d

g

f

g

a

b

S0

SF

S6

S5

S4

S3

S2

S1

b

b

b

λ