

2007

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$$\sigma(P, T, D)$$

P-
T-
D-

$$\vdots$$

$$C = (P, T, I, O)$$

P T -
P-
T-
O-
I-

$$; \quad I : T \rightarrow P$$

2

$$T(P).$$

$$C_\mu = (P, T, I, O, \mu)$$

$$\mu_0 =$$

$$\begin{aligned} & \text{G} \quad \mu: \\ \text{G} &= t_{J1}, \dots, t_{JK} \\ \mu &= \mu_0, \dots, \mu_K \end{aligned}$$

$$G \quad \mu$$

$$\vdots$$

().

$\mu,$

$$\mu(x) = \mu(y), \quad x$$

1.1

1. p_i , $\mu(p_i) \leq 1$ (≤ 1) .
2. p_i , k . k - ,
3. k - ,

$$E \mu_0(p_i) = E \mu(p_i)$$

$$\mu_0$$
 ,
4. μ_0 .
5. μ_0 , ,

1.2

1. t , μ_0 (L_0)
2. t , μ_0 , L_1 , μ_0
3. L_2 , k
4. L_3 ,
5. μ_0 , L_4 , L_1 , L_4 , 1

1.3

$$\mu''$$

$$\mu' \quad \mu'' . [\mu''(1506) \quad \mu'(1000)]$$

$$\mu'$$

$$\mu''$$

$$\cdot [\mu'(1\oplus 40) \quad \mu'(1240) \quad \omega \geq 2 \quad 4 \geq 4]$$

1.4

- 1.
- 2.
- 3.

- 1.
- 2.

3.
4.

- 1.
- 2.
- 3.
- 4.

2

2.1

E- _____

2.2

- 1.
- 2.
- 3.
- 4.

2.2.1

$$= \langle P, T, E, U, \mu_0 \rangle, \quad U -$$

2

3

$$= \langle N, t, 0 \rangle,$$

[illegible]

4 -

-		-
-		-
-	TD	-
-	TY	-
-	TI	-
-	7	-
-	8	-

3.1

—
—
—

3. `;`
`,`
`()` `()`.
2 :
 1. `;`
 2. `,`
`« »`.
`« »` :
`,`
`,` `.`

3.2

`(thread)` `(primary thread)`.
`,`
`:` 0 - , 31 -
`.`

3.3

`« »` :
`()`, `,`
`.`
`()`.
`« »`, `« »`.
`:`
`,` `.`

3.4

`,`
`.`
`,`
`,`
`:`
`-`
`-`
`,`
`,`
`.`

3.5

3.6

3.7

3.7.1

3.7.2

3.7.3

3.7.4

```

-                               ,                               P   V.
      S.
      P(S):S-1, . . . S 1.
      V(S):S+1, . . . S 1.
      P(S):
1.   S>=0, ;
2.   S<0, , S (
      , V(S), ,
      ).
      V(S):
1.   S>0, ;
2.   S<=0, V(S),
      ( , V(S),
      ).
      , :
-   P V ;
-   P V
S;
-   P V ,
-   P V ;
-   P V ,
      .
      - 1.
      :
      P(S)
      i
      V(S)
      1,0 -1:
-   2- S
      S=1, ,
      ;
-   S=0, , ;
-   S=-1, , S,
      , -
      .

```

3.7.5

```

-   ( ) ,
      ,
      .
      , -
      .
      ,
      .
      « » « »
      , - « »
      « »
      ,
      .
      ,
      ,
      ,
      .
      ,
      .
      :
      ;
      ,
      .

```

4

- 1.
- 2.
- 3.

1. ()
 - a.
 - b.
 - c.
2.
 - a.
 - b. ()
 - c.
3. ()

4.1

```

*****
*
*****
*
      x,y
      (x);
*
      y:=1;
*
1:      x=0      ll;
*
      y:=x*y;
*
      x:=x-1;
*
      ll;
*
11:      (y)
*
*****

```

4.1.1

1. $= \{ \dots \}$ -

2. $F = \{ f^{(0)}, f^{(1)}, f^{(2)} \dots; g^{(0)}, g^{(1)}, g^{(2)} \dots; h^{(0)}, h^{(1)}, h^{(2)} \dots \}$ -

3. $= \{ \dots; q^{(0)}, q^{(1)}, q^{(2)} \dots; \}$ -

4. $\{ \dots \}$ -

1. -

2. $t \quad f^{(n)}(t_1, t_2 \dots t_n), \quad t_1, t_2 \dots t_n -$;

3. $\dots 1, 2, \dots$.

$f^{(0)}, f^{(1)}(\dots), g^{(2)}(x, h^{(3)}(y, a)).$

(\dots)

$f^{(n)}(t_1, t_2 \dots t_n), \quad f^{(n)} - \dots, t_1, t_2 \dots t_n -$.

$p^{(0)}, p^{(1)}(\dots), p^{(2)}(f^{(2)}(x, y)).$

1. - $(\dots), \dots 1, 2 \dots -$,

2. - $(t_1, t_2 \dots t_n), \quad t_1, t_2 \dots t_n -$;

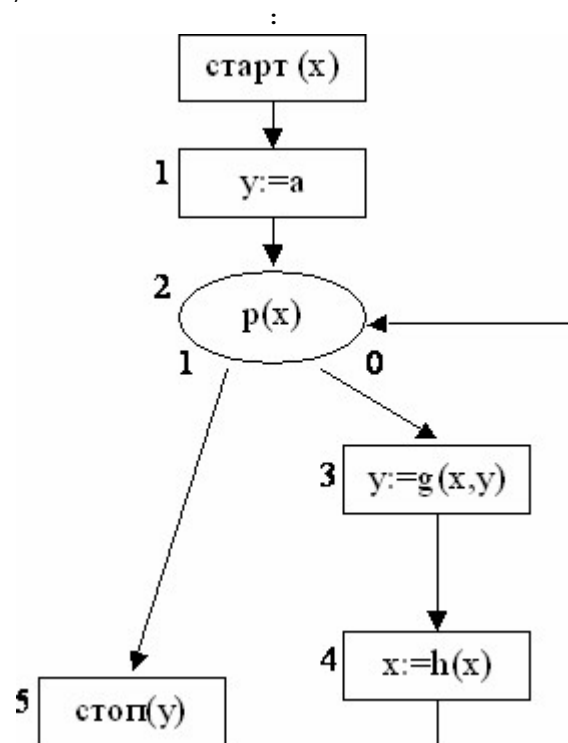
3. - $:= t, \dots - \dots, t -$;

4. $(\dots) -$;

5. - - ;

4.1.2

1.) () ; :
 2. . , () .
 3. - .
 4. - () 0 () .
 5. - .
 S (0, 1, 2...)^s.
 0. 1 S, S,
 1,
 S , 1



1. 1, : (1, ... n)
 2. S 0: 1 - (1, ... n) 1; := t,
 11,
 :
 1: x:=t 11;
 3. S 1 -
 (t₁, ..., t_m),
 1: (t₁, ..., t_m);

4. $S_{l-1} = (t_1, \dots, t_k), \quad l=1, \dots, n-1$

5. $S_{l-1} = (t_1, \dots, t_k), \quad l=1, \dots, n-1$

... $S_n = (t_1, \dots, t_k), \quad n=0, \dots, n-1$.

1. $l: A_{l-1} \rightarrow A_l, \quad l=1, \dots, n-1$

2. $l: A_{l-1} \rightarrow A_l, \quad l=1, \dots, n-1$

```
*****
*
*****
0: ( ) 1, * ( ),
1: : = 2, * : = ,
2: ( ) 5 3, * ( ) 5 3,
3: : = g (x,y) 4, * : = g (x,y),
4: : = h (x) 2, * : = h (x) 2,
5: ( ). * ( ).
*****
```

4.1.3

()

1. I_1, I_2, \dots, I_n

2. I_1, I_2, \dots, I_n

3. I_1, I_2, \dots, I_n

I_1, I_2, \dots, I_n

I_1, I_2, \dots, I_n

4.2

1. $D, I, d=I(x)$

2. $D, I, d=I(x)$

3. $f^{(n)}(n \geq 1) - F^{(n)} = I(f^{(n)})$

4. $f^{(n)}(n \geq 1) - \{0, 1\};$

5. $f^{(n)}(n \geq 1) - P^{(n)} = I(p^{(n)}).$

$(S, I), S -$, $I -$ $D -$.
 $(\quad),$ (\quad) .
 (S, I) $W: X_S \rightarrow D,$
 $W(x) -$ x S $W(x)$ D .
 XS I $W0$,
 $W0(x) = I(x)$ x XS .
 $($ $S,$ $W -$ $)$ $U = (1, W),$ $1 -$
 $($ $)$ (\quad) .
 $,$
 $.$

5

$($ $) -$
 $,$
 $.$
 $,$
 $.$
 1
 $.$
 $.$
 $($ $)$
 $:$
1. $($ $)$,
2. $,$,
 $:$
1. $($ $)$,
2. $-$ $($ $)$

5.1

$:$
a) ;
b) ;
c) .
 $,$
 $.$
 $:$
1. ;
2. ;

3.

1.

2.

3.

4.

1.

2.

3.

4.

5.

6.

7.

8.

5.2

Prolog.

: {Q}S{R}, Q,R - , S -

: wp(S,R) .

wp(S,R) . S R , .

R ,

R . ,

:
(RSL,SDL)
(ASN,

ADA) .

-
-