```
Example plus 3 2 square .
Input term: ((\lambda n . \lambda x . ((n @_1 (\lambda r . \lambda a . r @_2 (r @_3 a)))
@_4 (\lambda n1 . \lambda s1 . \lambda z1 . (n1 @_5 s1) @_6 (s1 @_7 z1))) @_8 x) @_9
(\lambda s3 . \lambda z3 . s3 @_{10} (s3 @_{11} z3))) @_{12} (\lambda s2 . \lambda z2 . s2 @_{13}
(s2 @_{14} (s2 @_{15} z2)))
1.
    @_{12}
                                              False
                                                         LUP
                                                                  0
                                                                       BIP
                                                                                0
     @_9
                                              False
                                                         LUP
                                                                       LCP
                                                                                1
2.
                                                                  1
                                                                                2
3.
     \lambdan
                                              False
                                                         CAP
                                                                  2
                                                                       LCP
4.
     \lambda x
                                              False
                                                         CAP
                                                                       DCP
                                                                                3
5.
     @8
                                              False
                                                         LUP
                                                                  0
                                                                       LCP
                                                                                4
6.
     @_4
                                              False
                                                         LUP
                                                                  5
                                                                       LCP
                                                                                5
7.
     @_1
                                              False
                                                         LUP
                                                                  6
                                                                       LCP
                                                                                6
8.
     n
                                              False
                                                         LUP
                                                                  7
                                                                       BIP
                                                                                3
                                                         CAP
                                                                 7
                                                                      LCP
                                                                               2
9.
     \lambdas3
                                              False
                                                                               9
10. \lambdaz3
                                              False
                                                         CAP
                                                                 6
                                                                       DCP
11.
      @_{10}
                                              False
                                                         LUP
                                                                 5
                                                                      LCP
                                                                              10
12.
      s3
                                              False
                                                         LUP
                                                                11
                                                                       BIP
                                                                               9
                                                                               7
13.
      \lambdar
                                              False
                                                         CAP
                                                                11
                                                                       LCP
14.
                                                         CAP
                                                                 5
                                                                       DCP
                                                                              13
      \lambdaa
                                              False
15.
                                                         LUP
                                                                 0
      @_2
                                              False
                                                                       LCP
                                                                              14
16.
      r
                                              False
                                                         LUP
                                                                15
                                                                       BIP
                                                                              13
17.
                                              False
                                                         LUP
                                                                15
                                                                       LCP
                                                                              11
      @_{11}
18.
                                              False
                                                         LUP
                                                                       BIP
                                                                               9
      s3
                                                                17
                                                                               7
                                                         CAP
19.
      \lambda r
                                              False
                                                                17
                                                                       LCP
20.
                                              False
                                                         CAP
                                                                15
                                                                       DCP
                                                                              19
      \lambdaa
21.
      @_{2}
                                              False
                                                         LUP
                                                                 0
                                                                       LCP
                                                                              20
22.
                                              False
                                                         LUP
                                                                21
                                                                       BIP
                                                                              19
      r
23.
      z3
                                              False
                                                         LUP
                                                                21
                                                                       BIP
                                                                              10
24.
                                              False
                                                         CAP
                                                                21
                                                                       LCP
                                                                               6
      \lambdan1
25.
      \lambdas1
                                               True
                                                        LUP
                                                                 0
                                                                       DCP
                                                                              24
26.
                                               True
                                                         LUP
                                                                      LCP
                                                                              25
      \lambdaz1
                                                                 0
27.
      @_6
                                              False
                                                         LUP
                                                                 0
                                                                      LCP
                                                                              26
28.
                                              False
                                                         LUP
                                                                27
                                                                       LCP
                                                                              27
      @_{5}
29.
                                                         LUP
                                                                       BIP
                                                                              24
                                              False
                                                                28
      n1
30.
                                                         LUP
                                                                28
                                                                       LCP
                                                                              21
      @_3
                                              False
31.
      r
                                              False
                                                         LUP
                                                                30
                                                                       BIP
                                                                              19
32.
      z3
                                              False
                                                         LUP
                                                                30
                                                                       BIP
                                                                              10
33.
      \lambdan1
                                              False
                                                         CAP
                                                                30
                                                                       LCP
                                                                               6
34.
      \lambdas1
                                              False
                                                         CAP
                                                                28
                                                                       DCP
                                                                              33
35.
      \lambdaz1
                                              False
                                                         CAP
                                                                27
                                                                       DCP
                                                                              34
36.
      @_6
                                              False
                                                         LUP
                                                                 0
                                                                       LCP
                                                                              35
37.
      @_5
                                              False
                                                         LUP
                                                                36
                                                                       LCP
                                                                              36
38.
      n1
                                              False
                                                         LUP
                                                                37
                                                                       BIP
                                                                              33
39.
                                              False
                                                         LUP
                                                                37
                                                                       BIP
                                                                              20
      а
40.
                                              False
                                                         LUP
                                                                37
                                                                       LCP
                                                                              15
      @_3
                                                                              13
41.
                                              False
                                                         LUP
                                                                40
                                                                       BIP
```

42.	$@_{11}$	False	LUP	40	LCP	11
43.	s3	False	LUP	42	BIP	9
44.	λ r	False	CAP	42	LCP	7
45.	λ a	False	CAP	40	DCP	44
46.	$@_{2}$	False	LUP	37	LCP	45
47.	r	False	LUP	46	BIP	44
48.	z3	False	LUP	46	BIP	10
49.	λ n1	False	CAP	46	LCP	6
50.	λ s1	False	CAP	37	DCP	49
51.	λ z1	False	CAP	36	DCP	50
52.	@ ₆	False	LUP	0	LCP	51
53.	$@_5$	False	LUP	52	LCP	52
54.	n1	False	LUP	53	BIP	49
55.	$@_3$	False	LUP	53	LCP	46
56.	r	False	LUP	55	BIP	44
57.	z3	False	LUP	55	BIP	10
58.	λ n1	False	CAP	55	LCP	6
59.	λ s1	False	CAP	53	DCP	58
60.	λ z1	False	CAP	52	DCP	59
61.	@6	False	LUP	0	LCP	60
62.	$@_5$	False	LUP	61	LCP	61
63.	n1	False	LUP	62	BIP	58
64.	a	False	LUP	62	BIP	45
65.	a	False	LUP	62	BIP	14
66.	X	False	LUP	62	BIP	4
67.	λ s2	False	CAP	62	LCP	1
68.	λ z2	False	CAP	61	DCP	67
69.	$@_{13}$	True	LUP	0	LCP	68
70.	s2	False	LUP	69	BIP	67
71.	s1	False	LUP	69	BIP	59
72.	s1	False	LUP	69	BIP	50
73.	s1	False	LUP	69	BIP	34
74.	s1	True	LUP	69	BIP	25
75.	$@_{14}$	True	PAUSE	0	DCP	69
76.	s2	False	LUP	75	BIP	67
77.	s1	False	LUP	75	BIP	59
78.	s1	False	LUP	75	BIP	50
79.	s1	False	LUP	75	BIP	34
80.	s1	True	LUP	75	BIP	25
81.	$@_{15}$	True	PAUSE	0	DCP	75
82.	s2	False	LUP	81	BIP	67
83.	s1	False	LUP	81	BIP	59
84.	s1	False	LUP	81	BIP	50
85.	s1	False	LUP	81	BIP	34
86.	s1	True	LUP	81	BIP	25
87.	z2	False	PAUSE	0	BIP	68

```
88.
     @7
                                                PAUSE
                                                             LCP
                                         True
                                                         0
                                                                    61
89.
                                        False
                                                 LUP
                                                             BIP
                                                                    59
     s1
                                                        88
90.
                                        False
                                                 LUP
                                                             BIP
                                                                    50
     s1
                                                        88
91.
     s1
                                                             BIP
                                        False
                                                 LUP
                                                        88
                                                                    34
92.
     s1
                                         True
                                                 LUP
                                                        88
                                                             BIP
                                                                    25
93.
     z1
                                        False
                                                PAUSE
                                                         0
                                                             BIP
                                                                    60
94.
                                         True
                                                PAUSE
                                                         0
                                                             LCP
     @_7
                                                                    52
95.
                                        False
                                                 LUP
                                                        94
                                                             BIP
                                                                    50
     s1
96.
     s1
                                        False
                                                 LUP
                                                        94
                                                             BIP
                                                                    34
97.
                                         True
                                                 LUP
                                                             BIP
     s1
                                                        94
                                                                    25
98.
     z1
                                        False
                                                PAUSE
                                                         0
                                                             BIP
                                                                    51
99.
                                                PAUSE
     @_7
                                         True
                                                             LCP
                                                                    36
                                                         0
100. s1
                                        False
                                                 LUP
                                                        99
                                                             BIP
                                                                    34
101.
                                         True
                                                 LUP
                                                             BIP
                                                                    25
      s1
                                                        99
102.
                                        False
      z1
                                                PAUSE
                                                         0
                                                             BIP
                                                                    35
103.
      @7
                                         True
                                                PAUSE
                                                         0
                                                             LCP
                                                                    27
104.
                                         True
                                                 LUP
                                                      103
                                                             BIP
                                                                    25
      s1
105.
      z1
                                         True
                                                PAUSE
                                                             BIP
                                                                    26
```

Example plus x n square .

```
Input term: (\lambda n . \lambda x .
                                   ((n @_1 (\lambda r . \lambda a . r @_2 (r @_3 a)))
@_4 (\lambda n1 . \lambda s1 . \lambda z1 .
                                   (n1 @_5 s1) @_6 (s1 @_7 z1))) @_8 x)
1. \lambdan
                                              True
                                                       LUP
                                                                0
                                                                     BIP
                                                                             0
                                                                             1
2. \lambda x
                                              True
                                                       LUP
                                                                0
                                                                     LCP
3.
    @8
                                              True
                                                       LUP
                                                                0
                                                                     LCP
                                                                              2
4.
    @_4
                                              True
                                                       LUP
                                                                     LCP
                                                                              3
5.
                                                                     LCP
    @_{1}
                                              True
                                                       LUP
                                                                4
                                                                              4
                                                                     BIP
6.
     n
                                              True
                                                       LUP
                                                                5
                                                                              1
7.
                                                                     DCP
                                                                              5
     \lambdar
                                              True
                                                      PAUSE
                                                                4
                                                                             7
8.
     \lambdaa
                                              True
                                                      PAUSE
                                                                4
                                                                     LCP
9.
     @_{2}
                                              True
                                                      PAUSE
                                                                4
                                                                     LCP
                                                                              8
                                                                             7
10.
                                              True
                                                       LUP
                                                                9
                                                                     BIP
                                                      PAUSE
                                                                              9
11.
      @_3
                                              True
                                                                     DCP
12.
                                              True
                                                       LUP
                                                               11
                                                                     BIP
                                                                             7
      r
                                                      PAUSE
13.
                                              True
                                                                4
                                                                     BIP
                                                                             8
      а
14.
                                                      PAUSE
      \lambdan1
                                              True
                                                                3
                                                                     DCP
                                                                             4
15.
                                              True
                                                      PAUSE
      \lambdas1
                                                                3
                                                                     LCP
                                                                            14
16.
      \lambdaz1
                                              True
                                                      PAUSE
                                                                3
                                                                     LCP
                                                                            15
17.
      @_{6}
                                              True
                                                      PAUSE
                                                                3
                                                                     LCP
                                                                            16
                                                       LUP
                                              True
18.
      @_{5}
                                                               17
                                                                     LCP
                                                                            17
19.
      n1
                                              True
                                                       LUP
                                                               18
                                                                     BIP
                                                                            14
                                                      PAUSE
20.
      s1
                                              True
                                                               17
                                                                     BIP
                                                                            15
21.
      @7
                                              True
                                                      PAUSE
                                                                     DCP
                                                                            17
                                                               3
22.
                                              True
                                                       LUP
                                                                     BIP
                                                                            15
      s1
                                                               21
```

```
      23. z1
      True PAUSE 3 BIP 16

      24. x
      True PAUSE 0 BIP 2
```

Example ack three .

```
(\lambda m . (m @_1 (\lambda g. \lambda n . (n @_2 g) @_3 (g @_4 (\lambda s1
Input term:
. \lambda z1. s1 @_5 z1)))) @_6 (\lambda n2 . \lambda s2 . \lambda z2 . (n2 @_7 s2) @_8
(s2 @_9 z2))) @_{10} (\lambda s . \lambda z . s @_{11} (s @_{12} (s @_{13} z)))
1. @<sub>10</sub>
                                              False
                                                        LUP
                                                                       BIP
                                                                               0
2.
    \lambdam
                                              False
                                                         CAP
                                                                  1
                                                                       LCP
                                                                                1
3.
    @_{6}
                                              False
                                                         LUP
                                                                       LCP
                                                                                2
    @_1
4.
                                              False
                                                         LUP
                                                                  3
                                                                       LCP
                                                                                3
5.
                                                         LUP
                                                                       BIP
                                                                                2
    m
                                              False
                                                                  4
6.
     \lambdas
                                              False
                                                         CAP
                                                                  4
                                                                       LCP
                                                                                1
7.
     \lambda z
                                              False
                                                         CAP
                                                                  3
                                                                       DCP
                                                                                6
    @_{11}
8.
                                              False
                                                         LUP
                                                                  0
                                                                       LCP
                                                                               7
9.
     s
                                              False
                                                        LUP
                                                                  8
                                                                       BIP
                                                                               6
                                                                                4
10. \lambda g
                                              False
                                                         CAP
                                                                  8
                                                                       LCP
11.
      \lambdan
                                               True
                                                         LUP
                                                                       DCP
                                                                              10
12.
                                                True
                                                         LUP
      @_3
                                                                 0
                                                                       LCP
                                                                              11
13.
      @_2
                                               True
                                                        LUP
                                                                12
                                                                       LCP
                                                                              12
14.
                                               True
                                                        LUP
                                                                13
                                                                       BIP
                                                                              11
15.
                                              False
                                                       PAUSE
                                                                12
                                                                       BIP
                                                                              10
      g
      @_{12}
16.
                                              False
                                                       PAUSE
                                                                12
                                                                       LCP
                                                                               8
17.
                                                                               6
                                              False
                                                        LUP
                                                                16
                                                                       BIP
      S
18.
      \lambda q
                                              False
                                                         CAP
                                                                16
                                                                       LCP
                                                                               4
19.
      \lambdan
                                                True
                                                       PAUSE
                                                                12
                                                                       DCP
                                                                              18
                                                       PAUSE
20.
      @_3
                                                True
                                                                12
                                                                       LCP
                                                                              19
                                                        LUP
21.
                                                                20
                                                                       LCP
                                                                              20
      @_2
                                                True
22.
                                                        LUP
                                                                       BIP
      n
                                                True
                                                                21
                                                                              19
23.
                                              False
                                                       PAUSE
                                                                20
                                                                       BIP
                                                                              18
      g
24.
                                              False
                                                       PAUSE
                                                                20
                                                                       LCP
                                                                              16
      @_{13}
25.
                                              False
                                                        LUP
                                                                24
                                                                       BIP
                                                                               6
      S
                                                         CAP
26.
      \lambdag
                                              False
                                                                24
                                                                       LCP
                                                                               4
27.
                                                True
                                                       PAUSE
                                                                       DCP
      \lambdan
                                                                20
                                                                              26
                                                       PAUSE
28.
                                                True
                                                                20
                                                                       LCP
                                                                              27
      @_3
29.
      @_{2}
                                                True
                                                        LUP
                                                                28
                                                                       LCP
                                                                              28
30.
                                                True
                                                        LUP
                                                                              27
      n
                                                                29
                                                                       BIP
31.
                                              False
                                                       PAUSE
                                                                28
                                                                       BIP
                                                                              26
      g
32.
                                              False
                                                       PAUSE
                                                                28
                                                                       BIP
                                                                               7
      Z
33.
      \lambdan2
                                                True
                                                       PAUSE
                                                                28
                                                                       LCP
                                                                               3
34.
      \lambdas2
                                                True
                                                       PAUSE
                                                                28
                                                                       LCP
                                                                              33
                                                       PAUSE
35.
      \lambdaz2
                                                True
                                                                28
                                                                       LCP
                                                                              34
36.
      @_{8}
                                                True
                                                       PAUSE
                                                                       LCP
                                                                              35
                                                                28
37.
                                                True
                                                        LUP
                                                                       LCP
      @_7
                                                                36
                                                                              36
```

38.	n2	True	LUP	37	BIP	33
39.	s2	True	PAUSE	36	BIP	34
40.	$@_{9}$	True	PAUSE	28	DCP	36
41.	s2	True	LUP	40	BIP	34
42.	z2	True	PAUSE	28	BIP	35
43.	$@_4$	False	PAUSE	20	DCP	28
44.	g	False	LUP	43	BIP	26
45.	Z	False	LUP	43	BIP	7
46.	λ n2	False	CAP	43	LCP	3
47.	λ s2	True	PAUSE	20	DCP	46
48.	λ z2	True	PAUSE	20	LCP	47
49.	@8	False	PAUSE	20	LCP	48
50.	@7	False	LUP	49	LCP	49
51.	n2	False	LUP	50	BIP	46
52.	λ s1	False	CAP	50	LCP	43
53.	λ z1	False	CAP	49	DCP	52
54.	$@_{5}$	True	PAUSE	20	LCP	53
55.	s1	False	LUP	54	BIP	52
56.	s2	True	LUP	54	BIP	47
57.	z1	False	PAUSE	20	BIP	53
58.	$@_9$	True	PAUSE	20	LCP	49
59.	s2	True	LUP	58	BIP	47
60.	z2	True	PAUSE	20	BIP	48
61.	$@_4$	False	PAUSE	12	DCP	20
62.	g	False	LUP	61	BIP	18
63.	$@_{13}$	False	LUP	61	LCP	16
64.	S	False	LUP	63	BIP	6
65.	λ g	False	CAP	63	LCP	4
66.	λ n	False	CAP	61	DCP	65
67.	$@_3$	False	PAUSE	12	LCP	66
68.	$@_2$	False	LUP	67	LCP	67
69.	n	False	LUP	68	BIP	66
70.	λ s1	False	CAP	68	LCP	61
71.	λ z1	False	CAP	67	DCP	70
72.	$@_{5}$	False	PAUSE	12	LCP	71
73.	s1	False	LUP	72	BIP	70
74.	g	False	LUP	72	BIP	65
75.	Z	False	LUP	72	BIP	7
76.	λ n2	False	CAP	72	LCP	3
77.	λ s2	True	PAUSE	12	DCP	76
78.	λ z2	True	PAUSE	12	LCP	77
79.	@8	False	PAUSE	12	LCP	78
80.	@7	False	LUP	79	LCP	79
81.	n2	False	LUP	80	BIP	76
82.	z1	False	LUP	80	BIP	71
83.	$@_4$	False	LUP	80	LCP	67

84.	g	False	LUP	83	BIP	65	
85.	Z	False	LUP	83	BIP	7	
86.	λ n2	False	CAP	83	LCP	3	
87.	λ s2	False	CAP	80	DCP	86	
88.	λ z2	False	CAP	79	DCP	87	
89.	@8	False	PAUSE	12	LCP	88	
90.	@7	False	LUP	89	LCP	89	
91.	n2	False	LUP	90	BIP	86	
92.	λ s1	False	CAP	90	LCP	83	
93.	λ z1	False	CAP	89	DCP	92	
94.	@ ₅	True	PAUSE	12	LCP	93	
95.	s1	False	LUP	94	BIP	92	
96.	s2	False	LUP	94	BIP	87	
97.	s2	True	LUP	94	BIP	77	
98.	z1	False	PAUSE	12	BIP	93	
99.	@9	True	PAUSE	12	LCP	89	
100.	s2	False	LUP	99	BIP	87	
101.	s2	True	LUP	99	BIP	77	
102.	z2	False	PAUSE	12	BIP	88	
103.	@9	True	PAUSE	12	LCP	79	
104.	s2	True	LUP	103	BIP	77 70	
105.	z2	True	PAUSE	12	BIP	78	
106.	$@_4$	False	PAUSE	0	DCP	12	
107.	g	False	LUP	106	BIP	10 8	
108.	@ ₁₂	False	LUP	106	LCP		
109.	S \ \ a	False False	LUP CAP	108 108	BIP LCP	6 4	
110. 111.	λ g λ n	False	CAP	106	DCP	110	
111.	@ ₃	False	PAUSE	0	LCP	111	
113.	$@_2$	False	LUP	112	LCP	112	
114.	n	False	LUP	113	BIP	111	
115.	λ s1	False	CAP	113	LCP	106	
116.	λ z1	False	CAP	112	DCP	115	
117.	@ ₅	False	PAUSE	0	LCP	116	
118.	s1	False	LUP	117	BIP	115	
119.	g	False	LUP	117	BIP	110	
120.	$@_{13}$	False					
121.	S	False	LUP	120	BIP	6	
122.	λ g	False	CAP	120	LCP	4	
123.	λ n	False	CAP	117	DCP	122	
124.	$@_3$	False	PAUSE	0	LCP	123	
125.	$@_2$	False	LUP	124	LCP	124	
126.	n	False	LUP	125	BIP	123	
127.	z1	False	LUP	125	BIP	116	
128.	$@_{4}$	False	LUP	125	LCP	112	
129.	g	False	LUP	128	BIP	110	

130.	$@_{13}$	False	LUP	128	LCP	108
131.	S	False	LUP	130	BIP	6
132.	λ g	False	CAP	130	LCP	4
133.	λ n	False	CAP	128	DCP	132
134.	$@_3$	False	LUP	125	LCP	133
135.	$@_2$	False	LUP	134	LCP	134
136.	n	False	LUP	135	BIP	133
137.	λ s1	False	CAP	135	LCP	128
138.	λ z1	False	CAP	134	DCP	137
139.	$@_{5}$	False	LUP	125	LCP	138
140.	s1	False	LUP	139	BIP	137
141.	g	False	LUP	139	BIP	132
142.	Z	False	LUP	139	BIP	7
143.	λn2	False	CAP	139	LCP	3
144.	λs2	False	CAP	125	DCP	143
145.	λ z2	False	CAP	124	DCP	144
146.	@8	False	PAUSE	0	LCP	145
147.	@ ₇	False	LUP	146	LCP	146
148.	n2	False	LUP	147	BIP	143
149.	z1	False	LUP	147	BIP	138
150.	$@_4$	False	LUP	147	LCP	134
151.	g	False	LUP	150	BIP	132
152.	Z	False	LUP	150	BIP	7
153.	λn2	False	CAP	150	LCP	3
154.	λs2	False	CAP	147	DCP	153
155.	λz2	False	CAP PAUSE	146 0	DCP LCP	154 155
156. 157.	@ ₈	False False	LUP	156	LCP	156
157.	@ ₇ n2	False	LUP	157	BIP	153
150.	λ s1	False	CAP	157	LCP	150
160.	λ z1	False	CAP	156	DCP	159
161.	@ ₅	False	PAUSE	0	LCP	160
162.	s1	False	LUP	161	BIP	159
163.	s2	False	LUP	161	BIP	154
164.	s2	False	LUP	161	BIP	144
165.	g	False	LUP	161	BIP	122
166.	Z	False	LUP	161	BIP	7
167.	λ n2	False	CAP	161	LCP	3
168.	λ s2	True	PAUSE	0	DCP	167
169.	λ z2	True	PAUSE	0	LCP	168
170.	@8	False	PAUSE	0	LCP	169
171.	@7	False	LUP	170	LCP	170
172.	n2	False	LUP	171	BIP	167
173.	z1	False	LUP	171	BIP	160
174.	@9	False	LUP	171	LCP	156
175.	s2	False	LUP	174	BIP	154

177. g	176.	s2	False	LUP	174	BIP	144
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	177.	g	False	LUP	174	BIP	122
180. λs2 False CAP 171 DCP 179 181. λz2 False CAP 170 DCP 180 182. @s False CAP 170 DCP 180 183. @τ False LUP 182 LCP 181 184. n2 False LUP 183 BIP 179 185. z2 False LUP 183 BIP 179 186. @g False LUP 183 BIP 179 186. @g False LUP 186 BIP 146 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 144 189. z False LUP 186 BIP 122 189. z False CAP 180 LCP 3 191. λs2 False LUP 182 DCP 191 192.	178.	Z	False	LUP	174	BIP	7
181. λz2 False CAP 170 DCP 180 182. @s False PAUSE 0 LCP 181 183. @γ False LUP 182 LCP 182 184. n2 False LUP 183 BIP 179 185. z2 False LUP 183 BIP 155 186. @g False LUP 183 BIP 155 186. @g False LUP 186 BIP 146 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 144 188. g False LUP 186 BIP 122 189. z False LUP 186 BIP 7 190. λn2 False LUP 186 LCP 3 191. λs2 False LUP 189 LP 193 195. <	179.	λ n2	False	CAP	174	LCP	3
182. @ ₈ False PAUSE 0 LCP 181 183. @ ₇ False LUP 182 LCP 182 184. n2 False LUP 183 BIP 179 185. z2 False LUP 183 BIP 179 186. @ ₉ False LUP 186 BIP 146 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 144 188. g False LUP 186 BIP 144 188. g False LUP 186 BIP 17 190. λn2 False LUP 186 BIP 7 190. λn2 False LUP 180 LCP 3 191. λx2 False LUP 193 LCP 191 192. λx2 False LUP 194 BIP 190 196.	180.	λ s2	False	CAP	171	DCP	179
183. Q̄ ₇ False LUP 182 LCP 182 184. n2 False LUP 183 BIP 179 185. z2 False LUP 183 BIP 155 186. @ ₉ False LUP 183 BLP 146 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 72 189. z False LUP 186 BIP 72 190. λn2 False CAP 186 BCP 192 191. λs2 False CAP 183 DCP 190 192. λz2 False CAP 182 DCP 191 193. @s False CAP 182 DCP 190 192. λz2 False LUP 193 LCP 192 194. @ ₇ False LUP 194 BIP 190 195 195 </td <td>181.</td> <td>λz2</td> <td>False</td> <td>CAP</td> <td>170</td> <td>DCP</td> <td>180</td>	181.	λ z2	False	CAP	170	DCP	180
184. n2 False LUP 183 BIP 179 185. z2 False LUP 183 BIP 155 186. @9 False LUP 186 BIP 144 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 144 188. g False LUP 186 BIP 144 188. g False LUP 186 BIP 7 190. λn2 False LUP 186 BIP 7 190. λn2 False LUP 183 DCP 190 191. λs2 False LUP 180 DCP 190 192. λz2 False CAP 182 DCP 191 193. @s False LUP 194 BIP 190 195. n2 False LUP 194 LCP 193 195.	182.	@8	False	PAUSE	0	LCP	181
185. z2 False LUP 183 BIP 155 186. Φ0 False LUP 183 LCP 146 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 7 190. λn2 False CAP 186 LCP 3 191. λs2 False CAP 186 LCP 3 192. λz2 False CAP 182 DCP 190 192. λz2 False CAP 182 DCP 191 193. Φg False LUP 193 LCP 191 193. Φg False LUP 194 BIP 190 196. z2 False LUP 194 BIP 194 197. Φ4 False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. <t< td=""><td>183.</td><td>@7</td><td>False</td><td>LUP</td><td>182</td><td>LCP</td><td>182</td></t<>	183.	@7	False	LUP	182	LCP	182
186. @g False LUP 183 LCP 146 187. s2 False LUP 186 BIP 144 188. g False LUP 186 BIP 122 189. z False LUP 186 BIP 7 190. λn2 False CAP 183 DCP 190 191. λs2 False CAP 183 DCP 190 192. λz2 False CAP 183 DCP 190 193. Qg False LUP 193 LCP 192 194. Qg False LUP 194 BIP 190 195. n2 False LUP 197 BIP 7 200.	184.	n2	False	LUP	183	BIP	179
187.	185.	z2	False	LUP	183	BIP	155
188. g	186.	$@_{9}$	False	LUP	183	LCP	146
189. z False LUP 186 BIP 7 190. λ n2 False CAP 186 LCP 3 191. λ s2 False CAP 183 DCP 190 192. λ z2 False CAP 182 DCP 191 193. @8 False PAUSE 0 LCP 192 194. @7 False LUP 193 LCP 193 195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 LCP 124 198. g False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. λ n2 False LUP 197 BIP 7 201. λ s2 False CAP 197 LCP 3 201. λ s2 False CAP 197 LCP 3 202. λ z2 False CAP 194 DCP 200 203. @8 False CAP 193 DCP 201 204. @7 False CAP 193 DCP 201 205. n2 False LUP 204 BIP 200 206. λ s1 False LUP 204 BIP 200 207. λ z1 False CAP 204 LCP 197 207. λ z1 False CAP 208 BIP 206 208. @5 True PAUSE 0 209. \$1 False LUP 208 BIP 206 210. \$2 False LUP 208 BIP 191 212. \$2 False LUP 208 BIP 180 213. \$2 False LUP 208 BIP 180 214. \$2 False LUP 2	187.	s2	False	LUP	186	BIP	144
190. λn2 False CAP 186 LCP 3 191. λs2 False CAP 183 DCP 190 192. λz2 False CAP 182 DCP 191 193. @a False PAUSE 0 LCP 192 194. @g False LUP 193 LCP 193 195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 BIP 145 197. @4 False LUP 194 LCP 124 198. g False LUP 197 BIP 145 199. z False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. λn2 False LUP 197 BIP 7 201. λs2 False LUP 197 BIP 200 202.	188.	g	False	LUP	186	BIP	122
191. λs2 False CAP 183 DCP 190 192. λz2 False CAP 182 DCP 191 193. @8 False PAUSE 0 LCP 192 194. @7 False LUP 193 LCP 193 195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 BIP 190 196. z2 False LUP 194 LCP 124 198. g False LUP 197 BIP 145 197. @4 False LUP 197 BIP 122 198. g False LUP 197 BIP 7 200. λn2 False LUP 197 BLP 7 200. λn2 False CAP 194 DCP 200 201. λs2 False LUP 203 LCP 202 202.	189.	Z	False	LUP	186	BIP	7
192. λz2 False CAP 182 DCP 191 193. @8 False PAUSE 0 LCP 192 194. @7 False LUP 193 LCP 193 195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 BIP 145 197. @4 False LUP 194 BIP 145 198. g False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 201 203. @8 False CAP 193 DCP 201 204. &07 False LUP 204 BIP 200 205.	190.	λ n2	False	CAP	186	LCP	3
193. @ ₈ False PAUSE 0 LCP 192 194. @ ₇ False LUP 193 LCP 193 195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 BIP 145 197. @ ₄ False LUP 194 LCP 124 198. g False LUP 197 BIP 7 199. z False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 200 203. @ ₈ False LUP 203 LCP 202 204. Q ₇ False LUP 203 LCP 203 205. <td>191.</td> <td>λs2</td> <td>False</td> <td>CAP</td> <td>183</td> <td>DCP</td> <td>190</td>	191.	λ s2	False	CAP	183	DCP	190
194. @ ₇ False LUP 193 LCP 193 195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 BIP 145 197. @ ₄ False LUP 194 LCP 124 198. g False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. λn2 False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 194 DCP 200 203. Q ₈ False LUP 203 DCP 201 203. Q ₈ False LUP 204 BIP 200 206. λs1 False LUP 204 BIP 206 207. <td>192.</td> <td>λz2</td> <td>False</td> <td>CAP</td> <td>182</td> <td>DCP</td> <td>191</td>	192.	λ z2	False	CAP	182	DCP	191
195. n2 False LUP 194 BIP 190 196. z2 False LUP 194 BIP 145 197. @4 False LUP 194 LCP 124 198. g False LUP 197 BIP 7 209. λα2 False LUP 197 BIP 7 200. λα2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 194 DCP 200 202. λz2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 201 203. @8 False PAUSE 0 LCP 202 204. @7 False LUP 204 BIP 200 205. n2 False LUP 208 BIP 206 206.	193.	@8	False	PAUSE	Θ	LCP	192
196. z2 False LUP 194 BIP 145 197. ℚ4 False LUP 194 LCP 124 198. g False LUP 197 BIP 7 209. λα2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 194 DCP 200 203. ℚ8 False CAP 193 DCP 201 203. ℚ8 False LUP 203 LCP 202 204. ℚ7 False LUP 203 LCP 203 205. n2 False LUP 204 BIP 200 206. λs1 False CAP 204 LCP 197 207. λz1 False LUP 208 BIP 206 208. ℚ5 True PAUSE 0 LCP 207 209.	194.	@7	False	LUP	193	LCP	193
197. @4 False LUP 194 LCP 124 198. g False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 201 203. @8 False PAUSE 0 LCP 202 204. @7 False LUP 203 LCP 203 205. n2 False LUP 204 BIP 200 206. λs1 False CAP 204 LCP 197 207. λz1 False CAP 203 DCP 206 208. @5 True PAUSE 0 LCP 207 209. s1 False LUP 208 BIP 206 210.	195.	n2	False	LUP	194	BIP	190
198. g False LUP 197 BIP 122 199. z False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 201 203. @8 False PAUSE 0 LCP 202 204. @7 False LUP 203 LCP 203 205. n2 False LUP 204 BIP 200 206. λs1 False CAP 204 LCP 197 207. λz1 False CAP 203 DCP 206 208. @5 True PAUSE 0 LCP 207 209. s1 False LUP 208 BIP 206 210. s2 False LUP 208 BIP 191 211.	196.	z2	False	LUP	194	BIP	145
199. z False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 201 203. @8 False PAUSE 0 LCP 202 204. @7 False LUP 203 LCP 203 205. n2 False LUP 204 BIP 200 206. λs1 False LUP 204 LCP 197 207. λz1 False CAP 204 LCP 197 208. @5 True PAUSE 0 LCP 207 209. s1 False LUP 208 BIP 206 210. s2 False LUP 208 BIP 201 211. s2 False LUP 208 BIP 191 212. s2 False LUP 208 BIP 168 214. z1 False PAUSE 0 <td>197.</td> <td>$@_4$</td> <td>False</td> <td>LUP</td> <td>194</td> <td>LCP</td> <td>124</td>	197.	$@_4$	False	LUP	194	LCP	124
199. z False LUP 197 BIP 7 200. λn2 False CAP 197 LCP 3 201. λs2 False CAP 194 DCP 200 202. λz2 False CAP 193 DCP 201 203. @8 False PAUSE 0 LCP 202 204. @7 False LUP 203 LCP 203 205. n2 False LUP 204 BIP 200 206. λs1 False CAP 204 LCP 197 207. λz1 False CAP 203 DCP 206 208. @5 True PAUSE 0 LCP 207 209. s1 False LUP 208 BIP 201 211. s2 False LUP 208 BIP 191 212. s2 False LUP 208 BIP 180 213. s2 True LUP 208 BIP 168 214. z1 False PAUSE 0 LCP 203 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 False LUP 215 BIP 180 219. s2 False LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	198.	g	False	LUP	197	BIP	122
201. λ s2 False CAP 194 DCP 200 202. λ z2 False CAP 193 DCP 201 203. $\textcircled{0}_8$ False PAUSE 0 LCP 202 204. $\textcircled{0}_7$ False LUP 203 LCP 203 205. n2 False LUP 204 BIP 200 206. λ s1 False CAP 204 LCP 197 207. λ z1 False CAP 203 DCP 206 208. $\textcircled{0}_5$ True PAUSE 0 LCP 207 209. s1 False LUP 208 BIP 206 210. s2 False LUP 208 BIP 201 211. s2 False LUP 208 BIP 190 212. s2 False LUP 208 BIP 168 214. z1 False PAUSE 0 LCP 203	199.		False	LUP	197	BIP	7
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	200.	λ n2	False	CAP	197	LCP	3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	201.	λ s2	False	CAP	194	DCP	200
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	202.	λ z2	False	CAP	193	DCP	201
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	203.	@8	False	PAUSE	0	LCP	202
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	204.	@7	False	LUP	203	LCP	203
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	205.	n2	False	LUP	204	BIP	200
208. @5 209. \$1 210. \$2 211. \$2 212. \$2 213. \$2 214. \$2 215. \$2 216. \$2 217. \$2 218. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 219. \$2 220. \$2	206.	λ s1	False	CAP	204	LCP	197
209. s1 210. s2 False LUP 208 BIP 206 210. s2 False LUP 208 BIP 201 211. s2 False LUP 208 BIP 191 212. s2 False LUP 208 BIP 180 213. s2 True LUP 208 BIP 168 214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 180 219. s2 False PAUSE 0 BIP 202	207.	λ z1	False	CAP	203	DCP	206
210. s2 False LUP 208 BIP 201 211. s2 False LUP 208 BIP 191 212. s2 False LUP 208 BIP 180 213. s2 True LUP 208 BIP 168 214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	208.	@ ₅	True	PAUSE	0	LCP	207
211. s2 False LUP 208 BIP 191 212. s2 False LUP 208 BIP 180 213. s2 True LUP 208 BIP 168 214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	209.	s1	False	LUP	208	BIP	206
212. s2 False LUP 208 BIP 180 213. s2 True LUP 208 BIP 168 214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	210.	s2	False	LUP	208	BIP	201
213. s2 True LUP 208 BIP 168 214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	211.	s2	False	LUP	208	BIP	191
214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	212.	s2	False	LUP	208	BIP	180
214. z1 False PAUSE 0 BIP 207 215. @9 True PAUSE 0 LCP 203 216. s2 False LUP 215 BIP 201 217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	213.	s2	True	LUP	208	BIP	168
216. s2 217. s2 False LUP 218. s2 False LUP 219. s2 True LUP 215. BIP 168. 220. z2	214.	z1			0	BIP	207
217. s2 False LUP 215 BIP 191 218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	215.	$@_{9}$	True	PAUSE	0	LCP	203
218. s2 False LUP 215 BIP 180 219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	216.	s2	False	LUP	215	BIP	201
219. s2 True LUP 215 BIP 168 220. z2 False PAUSE 0 BIP 202	217.	s2	False	LUP	215	BIP	191
220. z2 False PAUSE 0 BIP 202	218.	s2	False	LUP	215	BIP	180
	219.	s2	True	LUP	215	BIP	168
221. @ ₉ True PAUSE 0 LCP 193	220.	z2	False	PAUSE	Θ	BIP	202
	221.	$@_{9}$	True	PAUSE	0	LCP	193

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222.
                                          LUP 221
     s2
                                   False
                                                     BIP
                                                         191
223.
     s2
                                   False
                                          LUP 221
                                                     BIP
                                                         180
224.
     s2
                                   True
                                          LUP 221
                                                     BIP
                                                         168
225.
     z2
                                   False
                                         PAUSE 0
                                                     BIP
                                                         192
226.
     @_9
                                   True
                                         PAUSE
                                                     LCP
                                                         182
227.
     s2
                                   False
                                          LUP 226
                                                     BIP
                                                         180
228.
                                   True
                                          LUP 226
                                                     BIP
                                                         168
     s2
229.
                                   False PAUSE
     z2
                                                     BIP
                                                         181
230.
     @9
                                   True PAUSE 0
                                                     LCP
                                                         170
231.
                                   True
                                          LUP 230
                                                     BIP
     s2
                                                         168
232. z2
                                   True PAUSE
                                                     BIP 169
```

Example p zero .

Input term: $(\lambda \ t \ . \ (((t \ @_1 \ (\lambda \ n \ . \ \lambda \ a \ . \ \lambda \ x \ . \ n \ @_2 \ (\lambda \ s \ . \ \lambda \ z \ . \ (a \ @_3 \ s) \ @_4 \ ((x \ @_5 \ s) \ @_6 \ z)))) \ @_7 \ (\lambda \ a1 \ . \ a1)) \ @_8 \ (\lambda \ s1 \ . \ \lambda \ z1 \ . \ z1))) \ @_9 \ (\lambda \ s2 \ . \ \lambda \ z2 \ . \ z2)$ 1. $\ @_9 \ \ False \ LUP \ 0 \ BIP \ 0$ 2. $\ \lambda t \ \ False \ CAP \ 1 \ LCP \ 1$

2.	λt	False	CAP	1	LCP	1
3.	$@_{8}$	False	LUP	0	LCP	2
4.	@7	False	LUP	3	LCP	3
5.	$@_1$	False	LUP	4	LCP	4
6.	t	False	LUP	5	BIP	2
7.	λ s2	False	CAP	5	LCP	1
8.	λ z2	False	CAP	4	DCP	7
9.	z2	False	LUP	3	BIP	8
10.	λ al	False	CAP	3	LCP	4
11.	al	False	LUP	0	BIP	10
12.	λ s1	True	LUP	0	LCP	3
13.	λ z1	True	LUP	0	LCP	12
14.	z1	True	LUP	0	BIP	13

Example p one three .

Input term: ((λ t . (((t $@_1$ (λ n . λ a . λ x . n $@_2$ (λ s . λ z . (a $@_3$ s) $@_4$ ((x $@_5$ s) $@_6$ z)))) $@_7$ (λ a1 . a1)) $@_8$ (λ s1 . λ z1 . z1))) $@_9$ (λ s2 . λ z2 . s2 $@_{10}$ z2)) $@_{11}$ (λ s3 . λ z3 . s3 $@_{12}$ (s3 $@_{13}$ (s3 $@_{14}$ z3)))

	12 (10 (14 -///					
1.	$@_{11}$	False	LUP	0	BIP	0
2.	$@_{9}$	False	LUP	1	LCP	1
3.	λt	False	CAP	2	LCP	2
4.	@8	False	LUP	1	LCP	3
5.	@ ₇	False	LUP	4	LCP	4
6.	$@_1$	False	LUP	5	LCP	5
7.	t	False	LUP	6	BIP	3

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8.
    \lambdas2
                                              False
                                                        CAP
                                                                 6
                                                                      LCP
                                                                               2
9.
     \lambdaz2
                                              False
                                                        CAP
                                                                      DCP
                                                                               8
                                                                 5
10. @<sub>10</sub>
                                              False
                                                        LUP
                                                                 4
                                                                      LCP
                                                                               9
                                                                      BIP
                                                                               8
11.
      s2
                                              False
                                                        LUP
                                                                10
12.
      \lambdan
                                              False
                                                        CAP
                                                                10
                                                                      LCP
                                                                               6
13.
      \lambdaa
                                              False
                                                        CAP
                                                                 4
                                                                      DCP
                                                                              12
14.
                                                        CAP
      \lambda x
                                              False
                                                                 1
                                                                      DCP
                                                                              13
                                                                      LCP
15.
                                              False
                                                        LUP
                                                                              14
      @_2
16.
                                              False
                                                        LUP
                                                                15
                                                                      BIP
                                                                              12
      n
                                                        LUP
17.
      z2
                                              False
                                                                15
                                                                      BIP
                                                                               9
18.
      \lambdaa1
                                              False
                                                        CAP
                                                                15
                                                                      LCP
                                                                               5
19.
                                              False
                                                        LUP
                                                                 0
                                                                      BIP
                                                                              18
      a1
20.
      \lambdas
                                               True
                                                        LUP
                                                                 0
                                                                      LCP
                                                                              15
                                                        LUP
21.
      \lambdaz
                                               True
                                                                 0
                                                                      LCP
                                                                              20
22.
      @_4
                                              False
                                                        LUP
                                                                 0
                                                                      LCP
                                                                              21
23.
      @_3
                                              False
                                                        LUP
                                                                22
                                                                      LCP
                                                                              22
24.
                                              False
                                                        LUP
                                                                23
                                                                      BIP
                                                                              13
      а
25.
                                              False
                                                        CAP
                                                                23
                                                                      LCP
                                                                               4
      \lambdas1
26.
                                                        CAP
                                                                22
                                                                      DCP
                                                                              25
      \lambdaz1
                                              False
27.
      z1
                                              False
                                                        LUP
                                                                 0
                                                                      BIP
                                                                              26
28.
      @_{6}
                                              False
                                                        LUP
                                                                 0
                                                                      LCP
                                                                              22
29.
      @_{5}
                                              False
                                                        LUP
                                                                28
                                                                      LCP
                                                                              28
30.
                                                        LUP
                                                                              14
                                              False
                                                                29
                                                                      BIP
31.
      \lambdas3
                                              False
                                                        CAP
                                                                29
                                                                      LCP
                                                                               1
32.
                                              False
                                                        CAP
                                                                      DCP
      \lambdaz3
                                                                28
                                                                              31
33.
      @_{12}
                                               True
                                                        LUP
                                                                 0
                                                                      LCP
                                                                              32
34.
                                              False
                                                        LUP
                                                                33
                                                                      BIP
                                                                              31
      s3
35.
                                               True
                                                        LUP
                                                                33
                                                                      BIP
                                                                              20
      S
      @_{13}
                                               True
                                                       PAUSE
                                                                      DCP
                                                                              33
36.
                                                                 0
37.
                                              False
                                                        LUP
                                                                36
                                                                      BIP
                                                                              31
      s3
                                                                              20
38.
      S
                                               True
                                                        LUP
                                                                36
                                                                      BIP
39.
      @_{14}
                                               True
                                                       PAUSE
                                                                 0
                                                                      DCP
                                                                              36
40.
                                              False
                                                        LUP
                                                                      BIP
                                                                              31
      s3
                                                                39
41.
                                               True
                                                        LUP
                                                                      BIP
                                                                39
                                                                              20
      S
42.
                                              False
                                                       PAUSE
                                                                      BIP
                                                                              32
      z3
                                                                 0
43.
      Z
                                               True
                                                       PAUSE
                                                                      BIP
                                                                              21
```

Example p two three four .

Input term: $(((\lambda \ t \ . \ (((t \ @_1 \ (\lambda \ n \ . \ \lambda \ a \ . \ \lambda \ x \ . \ n \ @_2 \ (\lambda \ s \ . \ \lambda \ z \ . \ (a \ @_3 \ s) \ @_4 \ ((x \ @_5 \ s) \ @_6 \ z))))) \ @_7 \ (\lambda \ a1 \ . \ a1)) \ @_8 \ (\lambda \ s1 \ . \ \lambda \ z1 \ . \ z1))) \ @_9 \ (\lambda \ s2 \ . \ \lambda \ z2 \ . \ s2 \ @_{10} \ (s2 \ @_{11} \ z2))) \ @_{12} \ (\lambda \ s3 \ . \ \lambda \ z3 \ . \ s3 \ @_{13} \ (s3 \ @_{14} \ (s3 \ @_{15} \ z3))))) \ @_{16} \ (\lambda \ s4 \ . \ \lambda \ z4 \ . \ s4 \ @_{17} \ (s4 \ @_{18} \ (s4 \ @_{19} \ (s4 \ @_{20} \ z4))))$ 1. $\ @_{16}$ False LUP 0 BIP 0

_		- 1				
2.	$@_{12}$	False		1	LCP	1
3.	@9	False		2	LCP	2
4.	λ t	False		3	LCP	3
5.	$@_8$	False		2	LCP	4
6.	$@_7$	False	e LUP	5	LCP	5
7.	$@_1$	False	e LUP	6	LCP	6
8.	t	False	e LUP	7	BIP	4
9.	λ s2	False	e CAP	7	LCP	3
10.	λ z2	False		6	DCP	9
11.	@10	False		5	LCP	10
12.	s2	False		11	BIP	9
13.	λ n	False		11	LCP	7
14.	λ a	False		5	DCP	13
15.		False		2	DCP	14
	λx			1		
16.	$@_2$	False			LCP	15
17.	n	False		16	BIP	13
18.	$@_{11}$	False		16	LCP	11
19.	s2	False		18	BIP	9
20.	λ n	False		18	LCP	7
21.	λ a	False		16	DCP	20
22.	λx	False	e CAP	1	DCP	21
23.	$@_{2}$	False	e LUP	0	LCP	22
24.	n	False	e LUP	23	BIP	20
25.	z2	False	e LUP	23	BIP	10
26.	λ a1	False	e CAP	23	LCP	6
27.	a1	False		0	BIP	26
28.	λ s	True		0	LCP	23
29.	λ z	True		0	LCP	28
30.	$@_4$	False		0	LCP	29
31.	$@_{3}$	False		30	LCP	30
32.	a a	False		31	BIP	21
33.	λ s	False		31	LCP	16
34.	λz	False		30	DCP	33
35.				0	LCP	34
	$@_4$	False				
36.	@3	False		35	LCP	35
37.	a \	False		36	BIP	14
38.	λ s1	False		36	LCP	5
39.	λ z1	False		35	DCP	38
40.	z1	False		0	BIP	39
41.	$@_{6}$	False		0	LCP	35
42.	$@_{5}$	False		41	LCP	41
43.	Χ	False		42	BIP	15
44.	λ s3	False		42	LCP	2
45.	λ z3	False	e CAP	41	DCP	44
46.	$@_{13}$	True	e LUP	0	LCP	45
47.	s3	False	e LUP	46	BIP	44

```
48.
      S
                                            False
                                                      LUP
                                                             46
                                                                   BIP
                                                                          33
49.
      s
                                             True
                                                      LUP
                                                             46
                                                                   BIP
                                                                          28
50.
                                                     PAUSE
                                                                   DCP
      @_{14}
                                             True
                                                              0
                                                                          46
51.
      s3
                                            False
                                                      LUP
                                                             50
                                                                   BIP
                                                                          44
52.
      s
                                            False
                                                      LUP
                                                             50
                                                                   BIP
                                                                          33
53.
                                             True
                                                      LUP
                                                             50
                                                                   BIP
                                                                          28
      S
      @_{15}
54.
                                             True
                                                     PAUSE
                                                              0
                                                                   DCP
                                                                          50
                                                      LUP
                                                             54
55.
      s3
                                            False
                                                                   BIP
                                                                          44
56.
                                            False
                                                      LUP
                                                             54
                                                                   BIP
                                                                          33
      S
57.
      s
                                             True
                                                      LUP
                                                             54
                                                                   BIP
                                                                          28
58.
                                            False
                                                    PAUSE
                                                                   BIP
                                                                          45
      z3
                                                              0
59.
                                                     PAUSE
                                                                   BIP
      Z
                                            False
                                                              0
                                                                          34
      @_{6}
60.
                                            False
                                                    PAUSE
                                                              0
                                                                   LCP
                                                                          30
      @_{5}
61.
                                            False
                                                      LUP
                                                             60
                                                                   LCP
                                                                          60
                                                                          22
62.
      Х
                                            False
                                                      LUP
                                                             61
                                                                   BIP
63.
      \lambdas4
                                            False
                                                      CAP
                                                             61
                                                                   LCP
                                                                           1
64.
                                            False
                                                      CAP
                                                             60
                                                                   DCP
      \lambdaz4
                                                                          63
65.
                                             True
                                                     PAUSE
                                                                   LCP
                                                                          64
      @_{17}
                                                              0
                                                      LUP
66.
                                            False
                                                                   BIP
                                                                          63
      s4
                                                             65
67.
      S
                                             True
                                                      LUP
                                                             65
                                                                   BIP
                                                                          28
68.
      @_{18}
                                             True
                                                    PAUSE
                                                              0
                                                                   DCP
                                                                          65
69.
                                            False
                                                      LUP
                                                             68
                                                                   BIP
      s4
                                                                          63
70.
                                             True
                                                      LUP
                                                             68
                                                                   BIP
                                                                          28
      S
      @_{19}
71.
                                             True
                                                    PAUSE
                                                                   DCP
                                                                          68
                                                      LUP
72.
      s4
                                            False
                                                             71
                                                                   BIP
                                                                          63
73.
      S
                                             True
                                                      LUP
                                                             71
                                                                   BIP
                                                                          28
74.
                                             True
                                                     PAUSE
                                                                   DCP
                                                                          71
      @_{20}
                                                              0
75.
                                            False
                                                      LUP
                                                             74
                                                                   BIP
                                                                          63
      s4
76.
                                             True
                                                      LUP
                                                             74
                                                                   BIP
                                                                          28
      S
77.
                                                    PAUSE
                                                                          64
     z4
                                            False
                                                              0
                                                                   BIP
                                                                          29
78.
     Z
                                             True
                                                    PAUSE
                                                                   BIP
```

Example p three three four five .

```
((((\lambda t . (((t @_1 (\lambda n . \lambda a . \lambda x . n @_2 (\lambda s
Input term:
. \lambda z . (a @_3 s) @_4 ((x @_5 s) @_6 z)))) @_7 (\lambda a1 . a1)) @_8 (\lambda
s1 . \lambda z1 . z1))) @_9 (\lambda s2 . \lambda z2 . s2 @_{10} (s2 @_{11} (s2 @_{12} z2))))
@_{13} (\lambda s3 . \lambda z3 . s3 @_{14} (s3 @_{15} (s3 @_{16} z3)))) @_{17} (\lambda s4 . \lambda
z4 . s4 @_{18} (s4 @_{19} (s4 @_{20} (s4 @_{21} z4))))) @_{22} (\lambda s5 . \lambda z5. s5
@_{23} (s5 @_{24} (s5 @_{25} (s5 @_{26} (s5 @_{27} z5)))))
1. @_{22}
                                                   False
                                                              LUP
                                                                             BIP
                                                                                       0
     @_{17}
2.
                                                   False
                                                              LUP
                                                                             LCP
                                                                                       1
                                                                        1
3.
     @_{13}
                                                   False
                                                              LUP
                                                                        2
                                                                             LCP
                                                                                       2
4.
     @_9
                                                                             LCP
                                                                                       3
                                                   False
                                                              LUP
                                                                        3
5.
     \lambda \mathsf{t}
                                                   False
                                                              CAP
                                                                        4
                                                                             LCP
                                                                                       4
```

_	_			_		_
6.	@8	Fal			LCP	5
7.	$@_7$	Fal			LCP	6
8.	$@_1$	Fal			LCP	7
9.	t	Fal	.se LUP	8	BIP	5
10.	λ s2	Fal	se CAP	8	LCP	4
11.	λ z2	Fal	se CAP	7	DCP	10
12.	$@_{10}$	Fal	se LUP	6	LCP	11
13.	s2	Fal			BIP	10
14.	λ n	Fal			LCP	8
15.	λ a	Fal			DCP	14
16.	λx	Fal			DCP	15
17.	$@_2$	Fal			LCP	16
18.	n	Fal			BIP	14
19.		Fal			LCP	12
	$@_{11}$				BIP	
20.	s2	Fal				10
21.	λ n	Fal			LCP	8
22.	λ a	Fal			DCP	21
23.	λx	Fal			DCP	22
24.	$@_2$	Fal			LCP	23
25.	n	Fal			BIP	21
26.	$@_{12}$	Fal			LCP	19
27.	s2	Fal	.se LUP	26	BIP	10
28.	λ n	Fal	.se CAP	26	LCP	8
29.	λ a	Fal	.se CAP	24	DCP	28
30.	λx	Fal	se CAP	1	DCP	29
31.	$@_2$	Fal	se LUP	0	LCP	30
32.	n -	Fal			BIP	28
33.	z2	Fal			BIP	11
34.	λ a1	Fal			LCP	7
35.	a1	Fal			BIP	34
36.	λ s		ue LUP		LCP	31
37.	λz		ue LUP		LCP	36
38.	$@_4$	Fal			LCP	37
39.	$@_3$	Fal			LCP	38
40.		Fal			BIP	29
	a \					
41.	λ s	Fal			LCP	24
42.	λ z	Fal			DCP	41
43.	$@_4$	Fal			LCP	42
44.	$@_3$	Fal			LCP	43
45.	a	Fal			BIP	22
46.	λ s	Fal			LCP	17
47.	λ z	Fal			DCP	46
48.	$@_4$	Fal	.se LUP	0	LCP	47
49.	$@_3$	Fal	.se LUP	48	LCP	48
50.	a	Fal	se LUP	49	BIP	15
51.	λ s1	Fal	se CAP	49	LCP	6

53. 21 False LUP 0 BIP 52 54. @6 False LUP 0 LCP 48 55. @5 False LUP 54 LCP 54 56. x False LUP 55 BIP 16 57. λx3 False CAP 55 LCP 3 58. λz23 False CAP 54 DCP 57 59. @14 True LUP 0 LCP 58 60. s3 False LUP 59 BIP 57 61. s False LUP 59 BIP 46 62. s False LUP 59 BIP 41 63. s True LUP 59 BIP 41 63. s False LUP 69 BIP 57 65. s False LUP 64 BIP 57 66. s False LU	52.	λ z1	False	CAP	48	DCP	51
55. @5 False LUP 54 LCP 54 56. x False LUP 55 BIP 16 57. λs3 False CAP 55 LCP 3 58. λ23 False CAP 54 DCP 57 59. @14 True LUP 0 LCP 58 60. s3 False LUP 59 BIP 57 61. s False LUP 59 BIP 46 61. s False LUP 59 BIP 41 63. s True LUP 59 BIP 41 63. s True LUP 59 BIP 41 63. s False LUP 64 BIP 57 66. s False LUP 64 BIP 57 66. s False LUP 64 BIP 36 67. s False LUP<							
56. x False LUP 55 BIP 16 57. As3 False CAP 55 LCP 3 58. Az3 False CAP 54 DCP 57 59. @14 True LUP 0 LCP 58 60. s3 False LUP 59 BIP 57 61. s False LUP 59 BIP 57 61. s False LUP 59 BIP 41 62. s False LUP 59 BIP 41 63. s True LUP 59 BIP 36 64. @15 True PAUSE 0 DCP 59 65. s3 False LUP 64 BIP 57 66. s False LUP 64 BIP 41 67. s False LUP 64 BIP 41 68. s True PAU							
57. λs3 False CAP 55 LCP 3 58. λ23 False CAP 54 DCP 57 59. @14 True LUP 0 LCP 58 60. s3 False LUP 59 BIP 57 61. s False LUP 59 BIP 46 62. s False LUP 59 BIP 46 62. s False LUP 69 BIP 36 64. @15 True PAUSE 0 DCP 59 65. s3 False LUP 64 BIP 57 66. s False LUP 64 BIP 57 66. s False LUP 64 BIP 36 67. s False LUP 64 BIP 36 71. s False </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
58. λz3 False CAP 54 DCP 57 59. @14 True LUP 0 LCP 58 60. s3 False LUP 59 BIP 57 61. s False LUP 59 BIP 46 62. s False LUP 59 BIP 41 63. s True LUP 59 BIP 36 64. @15 True PAUSE 0 DCP 59 65. s3 False LUP 64 BIP 57 66. s False LUP 64 BIP 57 66. s False LUP 64 BIP 46 67. s False LUP 64 BIP 41 68. s True PAUSE 0 DCP 64 70. s3 False LUP 69 BIP 57 71. s False							
59. ಄14 True LUP 0 LCP 58 60. s3 False LUP 59 BIP 57 61. s False LUP 59 BIP 46 62. s False LUP 59 BIP 46 62. s False LUP 59 BIP 36 64. @15 True PAUSE 0 DCP 59 65. s3 False LUP 64 BIP 57 66. s False LUP 64 BIP 46 67. s False LUP 64 BIP 41 68. s True LUP 64 BIP 46 69. @16 True PAUSE 0 DCP 64 70. s3 False LUP 69 BIP 57 71. s False </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
60. \$3 61. \$ 61. \$ 62. \$ 63. \$ 63. \$ 64. \$ 63. \$ 64. \$ 63. \$ 64. \$ 63. \$ 64. \$ 63. \$ 64. \$ 63. \$ 65. \$ 65. \$ 65. \$ 66. \$ 67. \$ 68. \$ 69. \$ 61. \$ 69. \$ 61. \$ 69. \$ 61. \$ 69. \$ 61. \$ 61. \$ 62. \$ 63. \$ 64. \$ 69. \$ 69. \$ 69. \$ 60.							
61. S False LUP 59 BIP 46 62. S False LUP 59 BIP 41 63. S True LUP 59 BIP 36 64.							
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$							
63. s True LUP 59 BIP 36 64. @15 True PAUSE 0 DCP 59 65. s3 False LUP 64 BIP 57 66. s False LUP 64 BIP 46 67. s False LUP 64 BIP 41 68. s True LUP 64 BIP 41 68. s True LUP 64 BIP 36 69. @16 True PAUSE 0 DCP 64 70. s3 False LUP 69 BIP 57 71. s False LUP 69 BIP 46 72. s False LUP 69 BIP 46 72. s False LUP 69 BIP 41 73. s True LUP 69 BIP 47 74. z3 False PAUS							
64.							
65. s3 False LUP 64 BIP 57 66. s False LUP 64 BIP 46 67. s False LUP 64 BIP 46 68. s False LUP 64 BIP 41 68. s True LUP 64 BIP 31 68. s True LUP 64 BIP 31 69. □16 True PAUSE 0 DCP 64 70. s3 False LUP 69 BIP 57 71. s False LUP 69 BIP 57 71. s False LUP 69 BIP 41 72. s False LUP 69 BIP 41 72. s False LUP 69 BIP 41 73. s True LUP 69 BIP 36 74. z3 False PAUSE 0 BIP 58 75. z False PAUSE 0 BIP 58 75. z False PAUSE 0 BIP 47 76. □6 False PAUSE 0 BIP 47 77. □5 False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λs4 False CAP 77 LCP 2 80. λz4 False CAP 77 LCP 2 80. λz4 False LUP 81 BIP 79 81. □18 True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 84. s True LUP 81 BIP 79 85. □19 True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 36 87. s False LUP 85 BIP 79 88. s True LUP 88 BIP 79 89. □20 True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 93 BIP 79 95. s False LUP 93 BIP 79							
66. s							
67. s		s3					
68. s True LUP 64 BIP 36 69. @16 True PAUSE 0 DCP 64 70. s3 False LUP 69 BIP 57 71. s False LUP 69 BIP 57 71. s False LUP 69 BIP 46 72. s False LUP 69 BIP 46 73. s True LUP 69 BIP 46 73. s True LUP 69 BIP 41 73. s True LUP 69 BIP 41 73. s True LUP 69 BIP 43 74. z3 False PAUSE 0 LCP 43 75. z False LUP 76 LCP 76 78. x False LUP 77 LCP 2 80. λ24 False LUP <td></td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td>		S					
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		S					
70. s3							
71. s False LUP 69 BIP 46 72. s False LUP 69 BIP 41 73. s True LUP 69 BIP 36 74. z3 False PAUSE 0 BIP 58 75. z False PAUSE 0 BIP 47 76. @6 False PAUSE 0 LUP 76 LCP 43 77. @5 False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λs4 False CAP 77 LCP 2 80. λz4 False CAP 77 LCP 2 81. @18 True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 84. s True LUP 81 BIP 36 85. @19 True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 79 88. s True LUP 85 BIP 36 89. @20 True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 79 92. s True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 36 93. @21 True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 79 95. s False LUP 93 BIP 7							
72. s False LUP 69 BIP 36 73. s True LUP 69 BIP 36 74. z3 False PAUSE 0 BIP 58 75. z False PAUSE 0 BIP 47 76. @6 False PAUSE 0 LCP 43 77. @5 False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λs4 False CAP 77 LCP 2 80. λz4 False CAP 76 DCP 79 81. @18 True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 84. s True LUP 81 BIP 36 85. @19 True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 79 88. s True LUP 85 BIP 36 89. @20 True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 79 92. s True LUP 89 BIP 79 94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 79 96. s False LUP 93 BIP 79 96. s True LUP 89 BIP 79		s3					
73. S True LUP 69 BIP 36 74. z3 False PAUSE 0 BIP 58 75. z False PAUSE 0 BIP 47 76. @6 False PAUSE 0 LCP 43 77. @5 False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λs4 False CAP 77 LCP 2 80. λz4 False CAP 76 DCP 79 81. @18 True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 84. s True PAUSE 0 DCP 81 85. @19 True PAUSE 0 DCP 85 86. s4 False		S					
74. z3 False PAUSE		S					
75. z False PAUSE 0 BIP 47 76. @6 False PAUSE 0 LCP 43 77. @5 False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λs4 False CAP 77 LCP 2 80. λz4 False CAP 76 DCP 79 81. @18 True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 84. s True PAUSE 0 DCP 81 85. @19 True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 89 BIP 79 88. s True							
76. $@_6$ False PAUSE 0 LCP 43 77. $@_5$ False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λ s4 False CAP 76 DCP 79 80. λ z4 False CAP 76 DCP 79 81. $@_{18}$ True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 83. s True LUP 81 BIP 36 85. $@_{19}$ True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 79 88. s True PAUSE 0 DCP 85 90. s4		z3	False	PAUSE	0		
77. \mathbb{Q}_5 False LUP 76 LCP 76 78. x False LUP 77 BIP 23 79. λ s4 False CAP 77 LCP 2 80. λ z4 False CAP 76 DCP 79 81. \mathbb{Q}_{18} True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 83. s False LUP 81 BIP 79 83. s False LUP 85 BIP 36 85. \mathbb{Q}_{19} True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 89 BIP 79 87. s False LUP 89 BIP 79 89. s	75.	Z	False	PAUSE	0	BIP	47
78. x False LUP 77 BIP 23 79. λ s4 False CAP 77 LCP 2 80. λ z4 False CAP 76 DCP 79 81. $\textcircled{0}_{18}$ True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 79 84. s True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 79 88. s True LUP 85 BIP 36 89. $\textcircled{0}_{20}$ True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s True LUP 89 BIP 36 93. $\textcircled{0}_{21}$	76.	$@_{6}$	False	PAUSE	0	LCP	43
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	77.	$@_{5}$	False	LUP	76	LCP	76
80. $\lambda z4$ False CAP 76 DCP 79 81. $\textcircled{0}_{18}$ True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 41 84. s True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 41 88. s True LUP 85 BIP 36 89. $\textcircled{0}_{20}$ True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 79 91. s True PAUSE 0 DCP 89 93. $\textcircled{0}_{21}$ True PAUSE 0 DCP 89 94. s4	78.	X	False	LUP	77	BIP	23
81. $\textcircled{0}_{18}$ True PAUSE 0 LCP 80 82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 41 84. s True LUP 81 BIP 36 85. $\textcircled{0}_{19}$ True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 41 88. s True PAUSE 0 DCP 85 89. $\textcircled{0}_{20}$ True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 36 93. $\textcircled{0}_{21}$ True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 79 95. s<	79.	λ s4	False	CAP	77	LCP	2
82. s4 False LUP 81 BIP 79 83. s False LUP 81 BIP 41 84. s True LUP 81 BIP 36 85. $@_{19}$ True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 41 88. s True PAUSE 0 DCP 85 89. $@_{20}$ True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 36 93. $@_{21}$ True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 79 95. s Fals	80.	λ z4	False	CAP	76	DCP	79
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	81.	$@_{18}$	True	PAUSE	0	LCP	80
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	82.	s4	False	LUP	81	BIP	79
85. $@_{19}$ True PAUSE 0 DCP 81 86. s4 False LUP 85 BIP 79 87. s False LUP 85 BIP 41 88. s True LUP 85 BIP 36 89. $@_{20}$ True PAUSE 0 DCP 85 90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 36 93. $@_{21}$ True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 41 96. s True LUP 93 BIP 36	83.	S	False	LUP	81	BIP	41
86. \$4\$ False LUP 85 BIP 79 87. \$\$ False LUP 85 BIP 41 88. \$\$ True LUP 85 BIP 36 89. @20 True PAUSE 0 DCP 85 90. \$\$4\$ False LUP 89 BIP 79 91. \$\$ False LUP 89 BIP 41 92. \$\$ True LUP 89 BIP 36 93. @21 True PAUSE 0 DCP 89 94. \$\$4\$ False LUP 93 BIP 79 95. \$\$ False LUP 93 BIP 41 96. \$\$ True LUP 93 BIP 36	84.	S	True	LUP	81	BIP	36
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	85.	$@_{19}$	True	PAUSE	0	DCP	81
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	86.	s4	False	LUP	85	BIP	79
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	87.	S	False	LUP	85	BIP	41
90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 41 92. s True LUP 89 BIP 36 93. @21 True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 41 96. s True LUP 93 BIP 36	88.	S	True	LUP	85	BIP	36
90. s4 False LUP 89 BIP 79 91. s False LUP 89 BIP 41 92. s True LUP 89 BIP 36 93. @21 True PAUSE 0 DCP 89 94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 41 96. s True LUP 93 BIP 36	89.	$@_{20}$	True	PAUSE	0	DCP	85
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	90.			LUP	89	BIP	79
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	91.	S	False	LUP	89	BIP	41
94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 41 96. s True LUP 93 BIP 36	92.	S	True	LUP	89	BIP	36
94. s4 False LUP 93 BIP 79 95. s False LUP 93 BIP 41 96. s True LUP 93 BIP 36	93.	$@_{21}$	True	PAUSE	0	DCP	89
95. s False LUP 93 BIP 41 96. s True LUP 93 BIP 36							
96. s True LUP 93 BIP 36							

```
98. z
                                         False
                                                 PAUSE
                                                               BIP
                                                                      42
99.
     @_{6}
                                         False
                                                 PAUSE
                                                               LCP
                                                                      38
100.
                                         False
                                                  LUP
                                                         99
                                                               LCP
                                                                      99
      @_5
                                                               BIP
101.
      Х
                                         False
                                                  LUP
                                                        100
                                                                      30
102.
      \lambdas5
                                         False
                                                  CAP
                                                        100
                                                               LCP
                                                                       1
103.
      \lambdaz5
                                         False
                                                  CAP
                                                         99
                                                               DCP
                                                                     102
104.
                                                 PAUSE
                                                               LCP
                                                                     103
      @_{23}
                                          True
                                                          0
105.
                                         False
                                                  LUP 104
                                                               BIP
                                                                     102
      s5
106.
                                          True
                                                  LUP
                                                        104
                                                               BIP
                                                                      36
      S
      @_{24}
107.
                                                 PAUSE
                                          True
                                                               DCP
                                                                     104
108.
      s5
                                         False
                                                  LUP
                                                        107
                                                               BIP
                                                                     102
                                                  LUP
109.
                                          True
                                                        107
                                                               BIP
                                                                      36
      S
      @_{25}
110.
                                          True
                                                 PAUSE
                                                               DCP
                                                                     107
111.
                                                  LUP 110
                                                               BIP
      s5
                                         False
                                                                     102
112.
                                                  LUP 110
                                                                      36
      S
                                          True
                                                               BIP
113.
      @_{26}
                                          True
                                                 PAUSE
                                                          0
                                                               DCP
                                                                     110
114.
      s5
                                         False
                                                  LUP 113
                                                               BIP
                                                                     102
115.
                                          True
                                                  LUP 113
                                                               BIP
                                                                      36
      s
116.
                                                 PAUSE
                                                               DCP
      @_{27}
                                          True
                                                                     113
                                                          0
117.
                                                  LUP
                                                       116
      s5
                                         False
                                                               BIP
                                                                     102
118.
      S
                                          True
                                                  LUP 116
                                                               BIP
                                                                      36
119.
      z5
                                         False
                                                 PAUSE
                                                               BIP
                                                                     103
                                                          0
120.
                                          True
                                                 PAUSE
                                                          0
                                                               BIP
                                                                      37
      Ζ
```

Example p one .

```
Input term: (\lambda t . (((t @_1 (\lambda n . \lambda a . \lambda x . n @_2 (\lambda s .
\lambda z . (a @_3 s) @_4 ((x @_5 s) @_6 z)))) @_7 (\lambda a1 . a1)) @_8 (\lambda s1
   \lambda z1 . z1))) @_9 (\lambda s2 . \lambda z2 . s2 @_{10} z2)
                                                                         BIP
                                                                                  0
1.
   @_9
                                                False
                                                           LUP
2.
     \lambda \mathsf{t}
                                                False
                                                           CAP
                                                                    1
                                                                         LCP
                                                                                  1
    @_{8}
3.
                                                False
                                                           LUP
                                                                         LCP
                                                                                  2
                                                                    0
    @_7
4.
                                                False
                                                           LUP
                                                                    3
                                                                         LCP
                                                                                  3
5.
     @_1
                                                False
                                                           LUP
                                                                         LCP
                                                                                  4
     t
                                                False
                                                           LUP
                                                                    5
                                                                         BIP
                                                                                  2
6.
7.
     \lambdas2
                                                False
                                                           CAP
                                                                    5
                                                                         LCP
                                                                                  1
                                                                                  7
8.
     \lambdaz2
                                                False
                                                           CAP
                                                                    4
                                                                         DCP
                                                                    3
9.
     @_{10}
                                                False
                                                           LUP
                                                                         LCP
                                                                                  8
10. s2
                                                False
                                                           LUP
                                                                    9
                                                                         BIP
                                                                                  7
11.
      \lambdan
                                                           CAP
                                                                    9
                                                                         LCP
                                                                                  5
                                                False
12.
      \lambdaa
                                                False
                                                           CAP
                                                                    3
                                                                         DCP
                                                                                 11
13.
      \lambda x
                                                 True
                                                           LUP
                                                                    0
                                                                         DCP
                                                                                 12
14.
      @_{2}
                                                False
                                                           LUP
                                                                    0
                                                                         LCP
                                                                                 13
15.
                                                False
                                                           LUP
                                                                   14
                                                                         BIP
                                                                                 11
      n
16.
                                                                         BIP
      z2
                                                False
                                                           LUP
                                                                   14
                                                                                  8
```

17. 18. 19.	λ a1 a1 λ s	False False True	CAP LUP LUP	14 0 0	LCP BIP LCP	4 17 14
20.	λz	True	LUP	0	LCP	19
21.	$@_4$	False	LUP	0	LCP	20
22.	$@_3$	False	LUP	21	LCP	21
23.	a	False	LUP	22	BIP	12
24.	λ s1	False	CAP	22	LCP	3
25.	λ z1	False	CAP	21	DCP	24
26.	z1	False	LUP	0	BIP	25
27.	$@_{6}$	True	LUP	0	LCP	21
28.	$@_{5}$	True	LUP	27	LCP	27
29.	X	True	LUP	28	BIP	13
30.	S	True	PAUSE	27	BIP	19
31.	Z	True	PAUSE	0	BIP	20

Example p two .

```
Input term: (\lambda t . (((t @_1 (\lambda n . \lambda a . \lambda x . n @_2 (\lambda s .
\lambda z . (a @_3 s) @_4 ((x @_5 s) @_6 z)))) @_7 (\lambda a1 . a1)) @_8 (\lambda s1
   \lambda z1 . z1))) @_9 (\lambda s2 . \lambda z2 . s2 @_{10} (s2 @_{11} z2))
1. @<sub>9</sub>
                                                 False
                                                           LUP
                                                                          BIP
                                                                                   0
2.
     \lambda \mathsf{t}
                                                 False
                                                           CAP
                                                                     1
                                                                          LCP
                                                                                    1
3.
                                                 False
                                                           LUP
     @_8
                                                                     0
                                                                          LCP
                                                                                   2
    @_7
4.
                                                           LUP
                                                                                   3
                                                 False
                                                                     3
                                                                          LCP
5.
     @_1
                                                 False
                                                           LUP
                                                                     4
                                                                          LCP
                                                                                    4
6.
     t
                                                 False
                                                           LUP
                                                                          BIP
                                                                                    2
7.
                                                                     5
                                                                          LCP
     \lambdas2
                                                 False
                                                           CAP
                                                                                    1
                                                                          \mathsf{DCP}
                                                                                   7
                                                           CAP
                                                                     4
8.
     \lambdaz2
                                                 False
                                                           LUP
                                                                     3
                                                                          LCP
                                                                                   8
9.
     @_{10}
                                                 False
10. s2
                                                                                   7
                                                 False
                                                           LUP
                                                                     9
                                                                          BIP
11.
      \lambdan
                                                 False
                                                           CAP
                                                                     9
                                                                          LCP
                                                                                   5
12.
      \lambda {\sf a}
                                                 False
                                                           CAP
                                                                     3
                                                                          DCP
                                                                                  11
                                                           LUP
13.
      \lambda \mathbf{x}
                                                  True
                                                                          DCP
                                                                                  12
14.
      @_{2}
                                                 False
                                                           LUP
                                                                     0
                                                                          LCP
                                                                                  13
15.
                                                 False
                                                           LUP
                                                                   14
                                                                          BIP
                                                                                  11
      n
16.
      @_{11}
                                                 False
                                                           LUP
                                                                   14
                                                                          LCP
                                                                                   9
                                                                                   7
17.
                                                                   16
                                                                          BIP
      s2
                                                 False
                                                           LUP
18.
      \lambdan
                                                 False
                                                           CAP
                                                                   16
                                                                          LCP
                                                                                   5
19.
      \lambdaa
                                                 False
                                                           CAP
                                                                   14
                                                                          DCP
                                                                                  18
                                                                                  19
20.
      \lambda x
                                                  True
                                                           LUP
                                                                     0
                                                                          DCP
21.
      @_2
                                                 False
                                                           LUP
                                                                     0
                                                                          LCP
                                                                                  20
22.
                                                 False
                                                           LUP
                                                                   21
                                                                          BIP
                                                                                  18
      n
      z2
23.
                                                 False
                                                           LUP
                                                                   21
                                                                          BIP
                                                                                   8
24.
      \lambdaa1
                                                 False
                                                           CAP
                                                                   21
                                                                          LCP
                                                                                   4
```

```
25.
                                            False
                                                      LUP
                                                                    BIP
     a1
                                                                           24
26.
      \lambdas
                                             True
                                                      LUP
                                                               0
                                                                    LCP
                                                                           21
27.
     \lambda z
                                             True
                                                      LUP
                                                               0
                                                                    LCP
                                                                           26
      @_4
28.
                                                      LUP
                                                                    LCP
                                                                           27
                                            False
                                                               0
29.
     @_3
                                            False
                                                      LUP
                                                              28
                                                                    LCP
                                                                           28
30.
      а
                                            False
                                                      LUP
                                                              29
                                                                    BIP
                                                                           19
31.
     \lambdas
                                            False
                                                      CAP
                                                              29
                                                                    LCP
                                                                           14
32.
                                                      CAP
                                                              28
                                                                    DCP
     \lambda z
                                            False
                                                                           31
33.
      @_{4}
                                            False
                                                      LUP
                                                               0
                                                                    LCP
                                                                           32
34.
                                            False
                                                      LUP
                                                              33
                                                                    LCP
      @_3
                                                                           33
35.
                                            False
                                                      LUP
                                                              34
                                                                    BIP
                                                                           12
     а
36.
                                                      CAP
                                                                            3
     \lambdas1
                                            False
                                                              34
                                                                    LCP
37.
                                                                    DCP
     \lambdaz1
                                            False
                                                      CAP
                                                              33
                                                                           36
38.
                                            False
                                                      LUP
                                                               0
                                                                    BIP
                                                                           37
     z1
39.
     @_{6}
                                             True
                                                      LUP
                                                               0
                                                                    LCP
                                                                           33
40.
     @_{5}
                                              True
                                                      LUP
                                                              39
                                                                    LCP
                                                                           39
41.
                                              True
                                                      LUP
                                                              40
                                                                    BIP
                                                                           13
     Х
42.
                                            False
                                                     PAUSE
                                                              39
                                                                    BIP
                                                                           31
     S
43.
                                                     PAUSE
                                                                    BIP
                                             True
                                                              39
                                                                           26
     S
44.
                                                     PAUSE
                                                                    BIP
                                                                           32
      Z
                                             False
                                                               0
45.
     @_{6}
                                              True
                                                     PAUSE
                                                               0
                                                                    LCP
                                                                           28
46.
     @_{5}
                                              True
                                                      LUP
                                                              45
                                                                    LCP
                                                                           45
                                              True
                                                      LUP
47.
                                                              46
                                                                    BIP
                                                                           20
      Х
48.
                                              True
                                                     PAUSE
                                                              45
                                                                    BIP
     S
                                                                           26
49. z
                                              True
                                                     PAUSE
                                                                    BIP
                                                                           27
Example ex_1 .
                 (g @_1 (\lambda n . n))
Input term:
1. @<sub>1</sub>
                                              True
                                                      LUP
                                                               0
                                                                    BIP
                                                                            0
2.
    g
                                              True
                                                      LUP
                                                               1
                                                                    LCP
                                                                            1
3.
    \lambda \mathsf{n}
                                              True
                                                     PAUSE
                                                                    DCP
                                                                            1
                                                               0
4.
    n
                                              True
                                                     PAUSE
                                                               0
                                                                    BIP
                                                                            3
Example ex_2
Input term:
                 ((\lambda h . h) @_1 (\lambda f .
                                             f)) @_2 a
1.
    @_{2}
                                             False
                                                      LUP
                                                                    BIP
                                                                            0
                                                               0
2.
    @_1
                                            False
                                                      LUP
                                                                    LCP
                                                               1
                                                                            1
3.
    \lambdah
                                            False
                                                      CAP
                                                               2
                                                                    LCP
                                                                            2
4.
    h
                                            False
                                                      LUP
                                                               1
                                                                    BIP
                                                                            3
5.
    \lambda \mathsf{f}
                                                                    LCP
                                                                            2
                                            False
                                                      CAP
                                                               1
6.
    f
                                            False
                                                      LUP
                                                               0
                                                                    BIP
                                                                            5
                                                               0
                                                                            1
7.
                                             True
                                                      LUP
                                                                    LCP
    а
```

```
Example ex_3 .
Input term:
                ((\lambda h . h @_1 a) @_2 (\lambda f . f))
                                                                  BIP
1.
    @_{2}
                                            False
                                                     LUP
                                                                           0
                                                              0
2.
    \lambda \mathsf{h}
                                            False
                                                     CAP
                                                                  LCP
                                                                           1
                                                              1
3.
    @_1
                                            False
                                                     LUP
                                                              0
                                                                  LCP
                                                                           2
4.
    h
                                            False
                                                     LUP
                                                              3
                                                                  BIP
                                                                           2
5.
    \lambdaf
                                            False
                                                     CAP
                                                             3
                                                                  LCP
                                                                           1
                                                                           5
    f
                                            False
                                                     LUP
                                                                  BIP
6.
                                                              0
                                                     LUP
                                                              0
                                                                  LCP
                                                                           3
7.
    а
                                             True
Example ex_4
                \lambda f . \lambda y . (y @_1 f) @_2 y
Input term:
1. \lambda f
                                                     LUP
                                                                  BIP
                                                                           0
                                             True
                                                              0
2.
                                             True
                                                     LUP
    \lambda y
                                                              0
                                                                  LCP
                                                                           1
    @_{2}
3.
                                             True
                                                     LUP
                                                              0
                                                                  LCP
                                                                           2
    @_1
4.
                                             True
                                                     LUP
                                                             3
                                                                  LCP
                                                                           3
                                             True
                                                     LUP
                                                                  BIP
                                                                           2
5.
                                                              4
    У
                                             True PAUSE
                                                              3
                                                                  BIP
                                                                           1
6.
    f
7.
                                             True
                                                    PAUSE
                                                                  BIP
                                                                           2
    У
Example ex_4'
                \lambda f . \lambda y . (y @_1 (\lambda z . z)) @_2 y
Input term:
1. \lambda f
                                             True
                                                             0
                                                                  BIP
                                                                           0
                                                     LUP
    \lambda \mathbf{y}
2.
                                             True
                                                     LUP
                                                              0
                                                                  LCP
                                                                           1
3.
    @_2
                                             True
                                                     LUP
                                                              0
                                                                  LCP
                                                                           2
    @_1
                                             True
                                                     LUP
                                                                           3
4.
                                                              3
                                                                  LCP
                                             True
                                                                           2
5. y
                                                     LUP
                                                                  BIP
6. \lambda z
                                             True PAUSE
                                                                  DCP
                                                                           4
                                                             3
7. z
                                             True
                                                    PAUSE
                                                                  BIP
                                                                           6
                                                             3
8. y
                                             True PAUSE
                                                              0
                                                                  BIP
                                                                           2
Example ex_5
Input term:
                \lambda y . \lambda f . (y @_1 f) @_2 y
1. \lambda y
                                             True
                                                     LUP
                                                              0
                                                                  BIP
                                                                           0
2.
   \lambdaf
                                             True
                                                     LUP
                                                                  LCP
                                                                           1
                                                              0
3.
    @_2
                                             True
                                                     LUP
                                                                           2
                                                                  LCP
4.
    @_1
                                             True
                                                     LUP
                                                              3
                                                                  LCP
                                                                           3
5.
                                             True
                                                     LUP
                                                                  BIP
                                                                           1
    У
                                                              4
6.
    f
                                             True
                                                    PAUSE
                                                              3
                                                                  BIP
                                                                           2
7. y
                                             True PAUSE
                                                                  BIP
                                                                           1
```

```
Example succ two .
Input term: (\lambda n . \lambda s . \lambda z . (n @_1 s) @_2 (s @_3 z)) @_4 (\lambda
\mathsf{p} . \lambda \mathsf{o} . \mathsf{p} @_5 (\mathsf{p} @_6 \mathsf{o}))
                                                           LUP
                                                                          BIP
                                                                                   0
                                                 False
                                                                     0
1. @_4
2.
     \lambdan
                                                 False
                                                           CAP
                                                                     1
                                                                          LCP
                                                                                    1
3.
     \lambdas
                                                  True
                                                           LUP
                                                                     0
                                                                          DCP
                                                                                   2
4.
     \lambda \mathbf{z}
                                                  True
                                                           LUP
                                                                     0
                                                                          LCP
                                                                                   3
     @_{2}
5.
                                                           LUP
                                                                          LCP
                                                                                    4
                                                 False
                                                                     0
                                                                                    5
6.
     @_1
                                                 False
                                                           LUP
                                                                          LCP
7.
                                                 False
                                                           LUP
                                                                          BIP
                                                                                   2
     n
                                                                     6
8.
     \lambda \mathsf{p}
                                                 False
                                                           CAP
                                                                     6
                                                                          LCP
                                                                                    1
9.
                                                 False
                                                           CAP
                                                                     5
                                                                          DCP
     \lambdao
                                                                                    8
10. @<sub>5</sub>
                                                                                   9
                                                  True
                                                           LUP
                                                                     0
                                                                          LCP
11.
                                                 False
                                                           LUP
                                                                   10
                                                                          BIP
                                                                                   8
      р
12.
                                                  True
                                                           LUP
                                                                   10
                                                                          BIP
                                                                                   3
     S
13.
      @_{6}
                                                  True
                                                          PAUSE
                                                                   0
                                                                          DCP
                                                                                  10
14.
                                                 False
                                                           LUP
                                                                   13
                                                                          BIP
                                                                                   8
      р
15. s
                                                  True
                                                           LUP
                                                                   13
                                                                          BIP
                                                                                   3
16. o
                                                 False
                                                                                   9
                                                          PAUSE
                                                                          BIP
                                                                     0
                                                                                   5
17. @<sub>3</sub>
                                                  True
                                                          PAUSE
                                                                          LCP
                                                                     0
                                                                                   3
18.
     S
                                                  True
                                                           LUP
                                                                   17
                                                                          BIP
19.
                                                  True PAUSE
                                                                          BIP
                                                                                   4
      Z
Example ex_9
Input term:
                  (\lambda \times . \times @_1 \times) @_2 (\lambda \times . \times)
1.
    @_2
                                                 False
                                                           LUP
                                                                          BIP
                                                                                   0
     \lambda x
                                                 False
                                                           CAP
                                                                          LCP
2.
                                                                     1
                                                                                    1
     @_1
                                                           LUP
                                                                          LCP
                                                                                    2
3.
                                                 False
                                                                     0
                                                                                    2
4.
                                                           LUP
                                                                     3
                                                                          BIP
     Χ
                                                 False
5.
     \lambda z
                                                 False
                                                           CAP
                                                                     3
                                                                          LCP
                                                                                    1
6.
                                                 False
                                                           LUP
                                                                     0
                                                                          BIP
                                                                                    5
     Z
                                                                                   2
7.
                                                 False
                                                           LUP
                                                                     0
                                                                          BIP
     Χ
8.
     \lambdaz
                                                  True
                                                           LUP
                                                                     0
                                                                          LCP
                                                                                    1
9.
                                                  True
                                                           LUP
                                                                          BIP
                                                                                   8
     Z
Example ex_11 .
                  (\lambda x . \lambda y . x @_1 (x @_2 y)) @_3 (\lambda p .
Input term:
                                                                          q)
1.
    @_3
                                                 False
                                                           LUP
                                                                     0
                                                                          BIP
                                                                                   0
2.
     \lambda x
                                                 False
                                                           CAP
                                                                     1
                                                                          LCP
                                                                                   1
                                                  True
                                                           LUP
                                                                          DCP
                                                                                   2
3.
     \lambday
                                                                     0
     @_1
4.
                                                 False
                                                           LUP
                                                                     0
                                                                          LCP
                                                                                   3
                                                                                   2
5.
                                                 False
                                                           LUP
                                                                     4
                                                                          BIP
     Χ
     \lambda \mathsf{p}
6.
                                                 False
                                                           CAP
                                                                     4
                                                                          LCP
                                                                                    1
```

```
7. q True LUP 0 LCP 6
```

Example ex_f0 .

```
Input term: (\lambda n . (n @_1 (\lambda s . \lambda z . s @_2 (s @_3 ((n @_4 s)
@_5 z)))) @_6 (\lambda s1 . \lambda z1 . z1)) @_7 (\lambda s2 . \lambda z2 .
                                                                        z2)
1.
     @_7
                                                False
                                                          LUP
                                                                        BIP
2.
     \lambdan
                                                False
                                                          CAP
                                                                         LCP
                                                                                  1
                                                                   1
3.
    @_{6}
                                                False
                                                          LUP
                                                                        LCP
                                                                                  2
                                                                   0
    @_1
4.
                                                False
                                                          LUP
                                                                   3
                                                                         LCP
                                                                                  3
                                                                                  2
5.
     n
                                                False
                                                          LUP
                                                                         BIP
6. \lambdas2
                                                False
                                                          CAP
                                                                   4
                                                                         LCP
                                                                                  1
7.
                                                                         \mathsf{DCP}
     \lambdaz2
                                                False
                                                          CAP
                                                                   3
                                                                                  6
                                                                                  7
                                                          LUP
                                                                         BIP
8.
     z2
                                                False
                                                                   0
9.
     \lambdas1
                                                 True
                                                          LUP
                                                                   0
                                                                         LCP
                                                                                  3
10. \lambda z1
                                                 True
                                                          LUP
                                                                   0
                                                                        LCP
                                                                                  9
11. z1
                                                 True
                                                          LUP
                                                                   0
                                                                         BIP
                                                                                 10
```

Example ex_f1 .

```
Input term: (\lambda n . (n @_1 (\lambda s . \lambda z . s @_2 (s @_3 ((n @_4 s)
@_5 z)))) @_6 (\lambda s1 . \lambda z1 . z1)) @_7 (\lambda s2 . \lambda z2 .
                                                                      s2 @<sub>8</sub> z2)
1. @7
                                              False
                                                         LUP
                                                                       BIP
2.
    \lambdan
                                                                       LCP
                                               False
                                                         CAP
                                                                                1
                                                                  1
                                                                                2
3.
     @_{6}
                                              False
                                                         LUP
                                                                       LCP
                                              False
4.
     @_1
                                                         LUP
                                                                  3
                                                                       LCP
                                                                                3
5.
                                              False
                                                         LUP
                                                                  4
                                                                       BIP
                                                                                2
    n
                                              False
                                                         CAP
                                                                  4
                                                                       LCP
                                                                                1
6.
    \lambdas2
7.
    \lambdaz2
                                              False
                                                         CAP
                                                                  3
                                                                       DCP
                                                                                6
                                                                                7
8.
    @_8
                                              False
                                                         LUP
                                                                  0
                                                                       LCP
9.
     s2
                                              False
                                                         LUP
                                                                  8
                                                                       BIP
                                                                                6
10. \lambdas
                                               False
                                                         CAP
                                                                  8
                                                                       LCP
                                                                                4
11.
      \lambda z
                                                True
                                                         LUP
                                                                  0
                                                                       DCP
                                                                               10
12.
      @_{2}
                                              False
                                                         LUP
                                                                 0
                                                                       LCP
                                                                               11
13.
                                                         LUP
                                                                               10
      S
                                              False
                                                                12
                                                                       BIP
14.
      z2
                                               False
                                                         LUP
                                                                12
                                                                       BIP
                                                                               7
15.
                                               False
                                                         CAP
                                                                12
                                                                       LCP
                                                                               3
      \lambdas1
                                                True
                                                         LUP
                                                                 0
                                                                       DCP
                                                                               15
16. \lambda z1
                                                                       BIP
17. z1
                                                True
                                                         LUP
                                                                  0
                                                                              16
```

Example ex_f2 .

Input term: (λ n . (n $@_1$ (λ s . λ z . s $@_2$ (s $@_3$ ((n $@_4$ s) $@_5$ z)))) $@_6$ (λ s1 . λ z1 . z1)) $@_7$ (λ s2 . λ z2 . s2 $@_8$ (s2 $@_9$ z2))

```
1.
     @7
                                                False
                                                          LUP
                                                                         BIP
                                                                                  0
2.
     \lambdan
                                                False
                                                          CAP
                                                                         LCP
                                                                                  1
                                                                    1
3.
     @_{6}
                                                False
                                                          LUP
                                                                         LCP
                                                                                  2
                                                                    0
     @_{1}
                                                          LUP
                                                                         LCP
4.
                                                False
                                                                    3
                                                                                  3
5.
     n
                                                False
                                                          LUP
                                                                    4
                                                                         BIP
                                                                                  2
6.
     \lambdas2
                                                False
                                                          CAP
                                                                    4
                                                                         LCP
                                                                                  1
7.
     \lambdaz2
                                                False
                                                          CAP
                                                                    3
                                                                         DCP
                                                                                  6
                                                                                  7
8.
     @8
                                                False
                                                          LUP
                                                                         LCP
9.
     s2
                                                False
                                                          LUP
                                                                         BIP
                                                                                  6
                                                False
                                                          CAP
                                                                                  4
10.
     \lambdas
                                                                    8
                                                                         LCP
11.
      \lambda \mathbf{z}
                                                 True
                                                          LUP
                                                                    0
                                                                         DCP
                                                                                 10
12.
                                                False
                                                          LUP
      @_2
                                                                    0
                                                                         LCP
                                                                                 11
13.
      S
                                                False
                                                          LUP
                                                                  12
                                                                         BIP
                                                                                 10
14.
                                                False
                                                          LUP
                                                                  12
                                                                                  8
      @_9
                                                                         LCP
15.
                                                                  14
                                                                                  6
      s2
                                                False
                                                          LUP
                                                                         BIP
16.
      \lambdas
                                                False
                                                          CAP
                                                                  14
                                                                         LCP
                                                                                  4
17.
      \lambda \mathsf{z}
                                                False
                                                          CAP
                                                                  12
                                                                         DCP
                                                                                 16
18.
      @_{2}
                                                False
                                                          LUP
                                                                   0
                                                                         LCP
                                                                                 17
19.
                                                False
                                                          LUP
                                                                         BIP
      s
                                                                  18
                                                                                 16
20.
      z2
                                                          LUP
                                                                         BIP
                                                                                  7
                                                False
                                                                  18
21.
      \lambdas1
                                                False
                                                          CAP
                                                                  18
                                                                         LCP
                                                                                  3
22.
      \lambdaz1
                                                 True
                                                          LUP
                                                                    0
                                                                         DCP
                                                                                 21
23.
     z1
                                                 True
                                                          LUP
                                                                    0
                                                                         BIP
                                                                                 22
```

Example ex_L01 .

```
Input term: (\lambda f . \lambda x . f @_1 (x @_2 ((f @_3 x) @_4 x))) @_5 (\lambda
a. \lambda b. a)
    @_{5}
                                                          LUP
1.
                                               False
                                                                   0
                                                                        BIP
                                                                                 0
2.
     \lambda \mathsf{f}
                                                False
                                                          CAP
                                                                        LCP
                                                                   1
                                                                                 1
3.
     \lambda x
                                                True
                                                          LUP
                                                                   0
                                                                        DCP
                                                                                 2
4.
     @_1
                                                False
                                                          LUP
                                                                   0
                                                                        LCP
                                                                                 3
     f
                                                                                 2
5.
                                               False
                                                          LUP
                                                                        BIP
6.
     \lambdaa
                                               False
                                                          CAP
                                                                        LCP
                                                                                 1
7.
     \lambda \mathsf{b}
                                                True
                                                          LUP
                                                                        DCP
                                                                                 6
                                                                   0
                                               False
8.
     а
                                                          LUP
                                                                        BIP
                                                                                 6
                                                                   0
                                                          LUP
9.
     @_2
                                                True
                                                                   0
                                                                        LCP
                                                                                 4
10.
                                                True
                                                         LUP
                                                                   9
                                                                        BIP
                                                                                 3
     Χ
      @_4
11.
                                               False
                                                        PAUSE
                                                                   0
                                                                        DCP
                                                                                 9
12.
      @_3
                                               False
                                                         LUP
                                                                  11
                                                                        LCP
                                                                                11
13.
      f
                                               False
                                                          LUP
                                                                  12
                                                                        BIP
                                                                                 2
14.
      \lambdaa
                                               False
                                                          CAP
                                                                  12
                                                                        LCP
                                                                                 1
15.
                                               False
      \lambdab
                                                          CAP
                                                                  11
                                                                        DCP
                                                                                14
16.
                                               False
                                                        PAUSE
                                                                   0
                                                                        BIP
                                                                                14
      а
17.
                                                        PAUSE
                                                                        BIP
                                                                                 3
      Х
                                                True
                                                                   0
```

```
Example ex_LO2 .
```

Input term:	(λ x .	$(x @_1 x)$	$@_2$ x) $@_3$ (λ	a .	λ b .	a)	
1. @ ₃			False	LUP	0	BIP	0
2. λx			False	CAP	1	LCP	1
3. $@_2$			False	LUP	0	LCP	2
4. @ ₁			False	LUP	3	LCP	3
5. x			False	LUP	4	BIP	2
6. λ a			False	CAP	4	LCP	1
7. λ b			False	CAP	3	DCP	6
8. a			False	LUP	0	BIP	6
9. x			False	LUP	0	BIP	2
10. λ a			True	LUP	0	LCP	1
11. λ b			True	LUP	0	LCP	10
12. a			True	LUP	0	BIP	10

Example ex_L03 .

Inp	ut term:	$(\lambda \times .$	$x @_1$ (λ y .	y)) $@_2$	(λ a .	λ b	. b)	
1.	$@_2$				False	LUP	0	BIP	0
2.	λx				False	CAP	1	LCP	1
3.	$@_1$				False	LUP	0	LCP	2
4.	X				False	LUP	3	BIP	2
5.	λ a				False	CAP	3	LCP	1
6.	λ b				True	LUP	0	DCP	5
7.	b				True	LUP	0	BIP	6

Example ex_L04 .

Inp	ut term:	$(\lambda \times .$	x $@_1$ (λ y .	y)) $@_2$	(λ a .	λ b	. a)	
1.	$@_2$			False	LUP	0	BIP	0
2.	λx			False	CAP	1	LCP	1
3.	$@_1$			False	LUP	0	LCP	2
4.	X			False	LUP	3	BIP	2
5.	λ a			False	CAP	3	LCP	1
6.	λ b			True	LUP	0	DCP	5
7.	a			False	LUP	0	BIP	5
8.	λ y			True	LUP	0	LCP	3
9.	У			True	LUP	0	BIP	8

```
2.
                                                 True
                                                          LUP
                                                                         LCP
                                                                                  1
     g
                                                                   1
3.
     \lambda \mathsf{n}
                                                 True
                                                         PAUSE
                                                                        DCP
                                                                                  1
                                                                   0
                                                         PAUSE
                                                                         BIP
4.
     n
                                                 True
                                                                   0
                                                                                  3
Example NPR .
Input term: ((\lambda h . \lambda z . ((h @_1 (\lambda x . ((h @_2 (\lambda q . x))
@_3 a))) @_4 (z @_5 a))) @_6 (\lambda f . \lambda y . f @_7 ((g @_8 (\lambda b .
@_9 y))) @_{10} (g @_{11} (\lambda n . n))
                                                                                  0
1.
    @_{10}
                                                False
                                                          LUP
                                                                         BIP
2.
     @_{6}
                                                False
                                                          LUP
                                                                   1
                                                                        LCP
                                                                                  1
3.
     \lambda \mathsf{h}
                                                False
                                                          CAP
                                                                   2
                                                                        LCP
                                                                                  2
                                                                        DCP
4.
     \lambda \mathbf{z}
                                                False
                                                          CAP
                                                                                  3
                                                                   1
5.
     @_4
                                                False
                                                          LUP
                                                                   0
                                                                        LCP
                                                                                  4
6.
     @_1
                                                False
                                                          LUP
                                                                   5
                                                                        LCP
                                                                                  5
7.
     h
                                                False
                                                          LUP
                                                                   6
                                                                        BIP
                                                                                  3
                                                                                  2
     \lambda \mathsf{f}
                                                                   6
8.
                                                False
                                                          CAP
                                                                        LCP
9.
     \lambda y
                                                False
                                                          CAP
                                                                   5
                                                                        DCP
                                                                                  8
                                                False
                                                          LUP
                                                                        LCP
                                                                                  9
10. @<sub>7</sub>
                                                                   0
11.
      f
                                                False
                                                          LUP
                                                                  10
                                                                        BIP
                                                                                  8
12.
      \lambda x
                                                False
                                                          CAP
                                                                  10
                                                                        LCP
                                                                                  6
13.
      @_3
                                                False
                                                          LUP
                                                                   0
                                                                        LCP
                                                                                12
14.
                                                                  13
                                                                                13
      @_{2}
                                                False
                                                          LUP
                                                                        LCP
15.
                                                                                 3
                                                False
                                                          LUP
                                                                  14
                                                                        BIP
      h
                                                                                 2
16.
      \lambdaf
                                                False
                                                          CAP
                                                                  14
                                                                        LCP
17.
      \lambda y
                                                False
                                                          CAP
                                                                  13
                                                                        DCP
                                                                                16
                                                                                17
18.
      @_7
                                                False
                                                          LUP
                                                                   0
                                                                        LCP
                                                                         BIP
19.
      f
                                                False
                                                          LUP
                                                                                16
                                                                  18
20.
      \lambda q
                                                False
                                                          CAP
                                                                  18
                                                                        LCP
                                                                                14
21.
                                                False
                                                          LUP
                                                                   0
                                                                         BIP
                                                                                12
      Х
22.
      @_9
                                                 True
                                                          LUP
                                                                   0
                                                                        LCP
                                                                                10
23.
      @_{8}
                                                 True
                                                          LUP
                                                                  22
                                                                        LCP
                                                                                22
                                                          LUP
24.
                                                 True
                                                                  23
                                                                         LCP
                                                                                23
      g
25.
                                                 True
                                                         PAUSE
                                                                  22
                                                                         DCP
      \lambda \mathsf{b}
                                                                                23
                                                         PAUSE
26.
                                                 True
                                                                  22
                                                                        BIP
                                                                                25
      b
27.
                                                False
                                                         PAUSE
                                                                   0
                                                                        BIP
                                                                                  9
      У
28.
                                                                                  5
      @_{5}
                                                 True
                                                         PAUSE
                                                                   0
                                                                        LCP
29.
                                                False
                                                          LUP
                                                                  28
                                                                         BIP
                                                                                  4
      Z
30.
      @_{11}
                                                 True
                                                          LUP
                                                                  28
                                                                        LCP
                                                                                 1
31.
      g
                                                 True
                                                          LUP
                                                                  30
                                                                        LCP
                                                                                30
32.
      \lambdan
                                                 True
                                                         PAUSE
                                                                  28
                                                                        DCP
                                                                                30
                                                         PAUSE
                                                                                32
33.
      n
                                                 True
                                                                  28
                                                                         BIP
34.
                                                 True
                                                         PAUSE
                                                                        DCP
                                                                                28
      а
                                                                   0
```

LUP

True

BIP

0

 $@_1$

1.

```
Example mut three two .
Input term: ((\lambda m . \lambda n . \lambda s . \lambda z . (m @_1 (n @_2 s)) @_3 z)
@_4 (\lambda a . \lambda q . a @_5 (a @_6 (a @_7 q)))) @_8 (\lambda d . \lambda e . d @_9
(d @_{10} e))
1.
     @8
                                             False
                                                       LUP
                                                                     BIP
2.
     @_4
                                             False
                                                       LUP
                                                                1
                                                                     LCP
                                                                              1
3.
                                             False
                                                       CAP
                                                                2
                                                                     LCP
                                                                              2
     \lambdam
                                                                              3
4.
     \lambdan
                                             False
                                                       CAP
                                                                1
                                                                     DCP
5.
     \lambdas
                                              True
                                                       LUP
                                                                     DCP
                                                                              4
                                                                              5
6.
     \lambda z
                                              True
                                                       LUP
                                                                0
                                                                     LCP
7.
     @_3
                                             False
                                                       LUP
                                                                0
                                                                     LCP
                                                                              6
    @_1
                                                                7
                                                                              7
8.
                                             False
                                                       LUP
                                                                     LCP
                                                                              3
9.
     m
                                             False
                                                       LUP
                                                                8
                                                                     BIP
10.
                                                       CAP
                                                                     LCP
                                                                             2
     \lambdaa
                                             False
                                                                8
11.
                                                                7
                                                                             10
      \lambda q
                                             False
                                                       CAP
                                                                     DCP
12.
      @_{5}
                                             False
                                                       LUP
                                                                0
                                                                     LCP
                                                                             11
13.
                                             False
                                                       LUP
                                                               12
                                                                     BIP
                                                                             10
      а
14.
      @_2
                                             False
                                                       LUP
                                                               12
                                                                     LCP
                                                                             8
15.
                                                       LUP
                                                               14
                                                                     BIP
                                                                              4
      n
                                             False
16.
                                                       CAP
                                                                              1
      \lambdad
                                             False
                                                               14
                                                                     LCP
17.
      \lambdae
                                             False
                                                       CAP
                                                               12
                                                                     DCP
                                                                             16
18.
      @_9
                                              True
                                                       LUP
                                                                0
                                                                     LCP
                                                                             17
19.
      d
                                             False
                                                       LUP
                                                               18
                                                                     BIP
                                                                             16
20.
                                                               18
      S
                                              True
                                                       LUP
                                                                     BIP
                                                                             5
21.
                                              True
                                                      PAUSE
                                                                0
                                                                     DCP
                                                                             18
      @_{10}
22.
      d
                                             False
                                                       LUP
                                                               21
                                                                     BIP
                                                                             16
23.
                                              True
                                                       LUP
                                                               21
                                                                     BIP
                                                                             5
      s
                                                                             17
24.
      e
                                             False
                                                      PAUSE
                                                                0
                                                                     BIP
      @_{6}
25.
                                             False
                                                      PAUSE
                                                                0
                                                                     LCP
                                                                             12
26.
                                             False
                                                       LUP
                                                               25
                                                                     BIP
                                                                             10
      а
27.
                                                       LUP
                                                               25
                                                                     LCP
                                                                             8
      @_{2}
                                             False
28.
      n
                                             False
                                                       LUP
                                                               27
                                                                     BIP
                                                                              4
29.
                                             False
                                                       CAP
                                                               27
                                                                     LCP
                                                                              1
      \lambdad
30.
                                             False
                                                       CAP
                                                               25
                                                                     DCP
                                                                             29
      \lambdae
31.
      @_9
                                              True
                                                      PAUSE
                                                                     LCP
                                                                            30
                                                                0
32.
      d
                                             False
                                                       LUP
                                                               31
                                                                     BIP
                                                                             29
                                                       LUP
33.
      s
                                              True
                                                               31
                                                                     BIP
                                                                             5
34.
      @_{10}
                                              True
                                                      PAUSE
                                                                0
                                                                     DCP
                                                                            31
35.
      d
                                             False
                                                       LUP
                                                               34
                                                                     BIP
                                                                             29
36.
      s
                                              True
                                                       LUP
                                                               34
                                                                     BIP
                                                                             5
                                             False
37.
                                                      PAUSE
                                                                0
                                                                     BIP
                                                                             30
      е
38.
      @_7
                                             False
                                                      PAUSE
                                                                0
                                                                     LCP
                                                                             25
39.
                                                                     BIP
                                                                             10
      а
                                             False
                                                       LUP
                                                               38
40.
                                             False
                                                       LUP
                                                               38
                                                                     LCP
                                                                             8
      @_2
                                                                              4
41.
                                             False
                                                       LUP
                                                               40
                                                                     BIP
      n
42.
                                                               40
                                                                     LCP
      \lambdad
                                             False
                                                       CAP
                                                                              1
```

```
43. \lambdae
                                      False
                                             CAP
                                                         DCP
                                                                42
                                                    38
44. @<sub>9</sub>
                                      True PAUSE
                                                    0
                                                         LCP
                                                                43
45. d
                                                                42
                                      False
                                              LUP
                                                    44
                                                         BIP
46. s
                                              LUP
                                                         BIP
                                                                5
                                      True
                                                    44
47. @_{10}
                                      True
                                            PAUSE
                                                         DCP
                                                                44
48. d
                                      False
                                              LUP
                                                    47
                                                         BIP
                                                                42
49. s
                                      True
                                              LUP
                                                    47
                                                         BIP
                                                                5
50. e
                                      False PAUSE
                                                         BIP
                                                                43
51. q
                                      False PAUSE
                                                         BIP
                                                                11
52. z
                                      True PAUSE
                                                         BIP
                                                                6
```

Example plus 3 2^2 .

Input term: $((\lambda \text{ n }. \lambda \text{ x }. ((\text{n} \ @_1 \ (\lambda \text{ r }. \lambda \text{ a }. \text{ r} \ @_2 \ (\text{r} \ @_3 \text{ a}))) \ @_4 \ (\lambda \text{ n1 }. \lambda \text{ s1 }. \lambda \text{ z1 }. (\text{n1} \ @_5 \text{ s1}) \ @_6 \ (\text{s1} \ @_7 \text{ z1}))) \ @_8 \ \text{x}) \ @_9 \ (\lambda \text{ s3 }. \lambda \text{ z3 }. \text{ s3 } \ @_{10} \ (\text{s3} \ @_{11} \text{ z3}))) \ @_{12} \ (\lambda \text{ s2 }. \lambda \text{ z2 }. \text{ s2 } \ @_{13} \ (\text{s2} \ @_{14} \ (\text{s2} \ @_{15} \ \text{z2})))$

(S2	$@_{14}$ (S2 $@_{15}$ Z2)))						
1.	$@_{12}$	False	LUP	0	BIP	0	
2.	$@_9$	False	LUP	1	LCP	1	
3.	λ n	False	CAP	2	LCP	2	
4.	λx	False	CAP	1	DCP	3	
5.	@8	False	LUP	0	LCP	4	
6.	$@_4$	False	LUP	5	LCP	5	
7.	$@_1$	False	LUP	6	LCP	6	
8.	n	False	LUP	7	BIP	3	
9.	λ s3	False	CAP	7	LCP	2	
10.	λ z3	False	CAP	6	DCP	9	
11.	$@_{10}$	False	LUP	5	LCP	10	
12.	s3	False	LUP	11	BIP	9	
13.	λ r	False	CAP	11	LCP	7	
14.	λ a	False	CAP	5	DCP	13	
15.	$@_{2}$	False	LUP	0	LCP	14	
16.	r	False	LUP	15	BIP	13	
17.	@ ₁₁	False	LUP	15	LCP	11	
18.	s3	False	LUP	17	BIP	9	
19.	λ r	False	CAP	17	LCP	7	
20.	λ a	False	CAP	15	DCP	19	
21.	$@_{2}$	False	LUP	0	LCP	20	
22.	r	False	LUP	21	BIP	19	
23.	z3	False	LUP	21	BIP	10	
24.	λ n1	False	CAP	21	LCP	6	
25.	λ s1	True	LUP	0	DCP	24	
26.	λ z1	True	LUP	0	LCP	25	
27.	@6	False	LUP	0	LCP	26	
28.	$@_{5}$	False	LUP	27	LCP	27	

29.	n1	False	LUP	28	BIP	24
30.	$@_3$	False	LUP	28	LCP	21
31.	r	False	LUP	30	BIP	19
32.	z3	False	LUP	30	BIP	10
33.	λ n1	False	CAP	30	LCP	6
34.	λ s1	False	CAP	28	DCP	33
35.	λ z1	False	CAP	27	DCP	34
36.	$@_{6}$	False	LUP	0	LCP	35
37.	$@_{5}$	False	LUP	36	LCP	36
38.	n1	False	LUP	37	BIP	33
39.	a	False	LUP	37	BIP	20
40.	$@_3$	False	LUP	37	LCP	15
41.	r	False	LUP	40	BIP	13
42.	@ ₁₁	False	LUP	40	LCP	11
43.	s3	False	LUP	42	BIP	9
44.	λ r	False	CAP	42	LCP	7
45.	λ a	False	CAP	40	DCP	44
46.	$@_{2}$	False	LUP	37	LCP	45
47.	r	False	LUP	46	BIP	44
48.	z3	False	LUP	46	BIP	10
49.	λ n1	False	CAP	46	LCP	6
50.	λ s1	False	CAP	37	DCP	49
51.	λ z1	False	CAP	36	DCP	50
52.	@6	False	LUP	0	LCP	51
53.	© ₅	False	LUP	52	LCP	52
54.	n1	False	LUP	53	BIP	49
55.	$@_3$	False	LUP	53	LCP	46
56.	r	False	LUP	55	BIP	44
57.	z3	False	LUP	55	BIP	10
58.	λ n1	False	CAP	55	LCP	6
59.	λ s1	False	CAP	53	DCP	58
60.	λ z1	False	CAP	52	DCP	59
61.	$@_{6}$	False	LUP	0	LCP	60
62.	$@_5$	False	LUP	61	LCP	61
63.	n1	False	LUP	62	BIP	58
64.	a	False	LUP	62	BIP	45
65.	a	False	LUP	62	BIP	14
66.	X	False	LUP	62	BIP	4
67.	λ s2	False	CAP	62	LCP	1
68.	λ z2	False	CAP	61	DCP	67
69.	@ ₁₃	True	LUP	0	LCP	68
70.	s2	False	LUP	69	BIP	67
71.	s1	False	LUP	69	BIP	59
72.	s1	False	LUP	69	BIP	50
73.	s1	False	LUP	69	BIP	34
74.	s1	True	LUP	69	BIP	25

75.	$@_{14}$	True	PAUSE	0	DCP	69
76.	s2	False	LUP	75	BIP	67
77.	s1	False	LUP	75	BIP	59
78.	s1	False	LUP	75	BIP	50
79.	s1	False	LUP	75	BIP	34
80.	s1	True	LUP	75	BIP	25
81.	$@_{15}$	True	PAUSE	0	DCP	75
82.	s2	False	LUP	81	BIP	67
83.	s1	False	LUP	81	BIP	59
84.	s1	False	LUP	81	BIP	50
85.	s1	False	LUP	81	BIP	34
86.	s1	True	LUP	81	BIP	25
87.	z2	False	PAUSE	0	BIP	68
88.	@7	True	PAUSE	0	LCP	61
89.	s1	False	LUP	88	BIP	59
90.	s1	False	LUP	88	BIP	50
91.	s1	False	LUP	88	BIP	34
92.	s1	True	LUP	88	BIP	25
93.	z1	False	PAUSE	0	BIP	60
94.	@7	True	PAUSE	0	LCP	52
95.	s1	False	LUP	94	BIP	50
96.	s1	False	LUP	94	BIP	34
97.	s1	True	LUP	94	BIP	25
98.	z1	False	PAUSE	0	BIP	51
99.	@7	True	PAUSE	0	LCP	36
100.	s1	False	LUP	99	BIP	34
101.	s1	True	LUP	99	BIP	25
102.	z1	False	PAUSE	0	BIP	35
103.	@7	True	PAUSE	0	LCP	27
104.	s1	True	LUP	103	BIP	25
105.	z1	True	PAUSE	0	BIP	26