
CORE WAR
NANO CHALLENGE

Core War

- One of the oldest programming games, dating back to 1984.
- Programs written in assembly-like Redcode language battle in virtual memory.
- Very small instruction set: 16 operations, 7 modifiers, 8 addressation modes.
- See `https://www.corewar.info` and `https://corewar.co.uk/` for more info.

Nash Equilibrium

- Informally, NE is the best possible combination of strategies rational players could adopt, with no player being able to benefit by deviating from it.
- In Core War, we're interested in a symmetric equilibrium of a symmetric two-player game.
- Strategy profile (vector of probabilities) p is a NE of a score matrix S if $pSp \geq qSp$ for any distribution q.
- Informally, there is no better counter to NE than NE itself.
- Every finite symmetric game has a symmetric NE.
- Potentially non-unique, uniqueness is hard to verify. Very likely unique for actual Core War matrices.
- Zero-Diagonal Nash Equilibrium (ZDNE): NE of S with diagonal elements set to 0. Penalizes high-probability warriors, wider than the regular NE.

Challenge Rules – Qualification Stage

The entries are scored against the Nash equilibrium (NE) of the Koenigstuhl nano hill snapshot from 2025.05.01:

Prob	Name	Author
15.53	14_12.red	yabevolver
10.13	Combat Arithmetic	inversed
8.60	Nonlocality 2	inversed
8.25	Transfer Function	Terry Newton
6.83	032_42.red	yabevolver
6.74	b69e6908-a5be0bba-ab4445f7.rc	bvowk
6.20	Unholy Fire	John Metcalf
6.14	Quantum Foam	inversed
4.99	[RS] Nextratulated Sturvinator 2	inversed
4.77	128_48.red	yabevolver
4.63	Diffraction Limit S5	inversed
4.31	Cold Plasma	inversed
3.72	8c09fc1a-4799259f-1747246f	bvowk
3.00	Pacler Deux	Roy van Rijn
2.66	Flamewraith	John Metcalf
2.08	[RS] Existephall Apris	inversed
1.16	Nonlocality	inversed
0.25	145_13.red	yabevolver

Entries scoring above 146 points advance to the next stage.

Challenge Rules – Final Stage

- Entries advancing from the qualification stage are added to the Koenigstuhl nano hill snapshot from 2025.05.01.
- The new NE is calculated multiple times strating with random initialization. In case of multiple NEs, the most frequent one is chosen.
- Players are ranked by total NE probability of qualified entries.
- $100 first place prize, $30 second place prize.

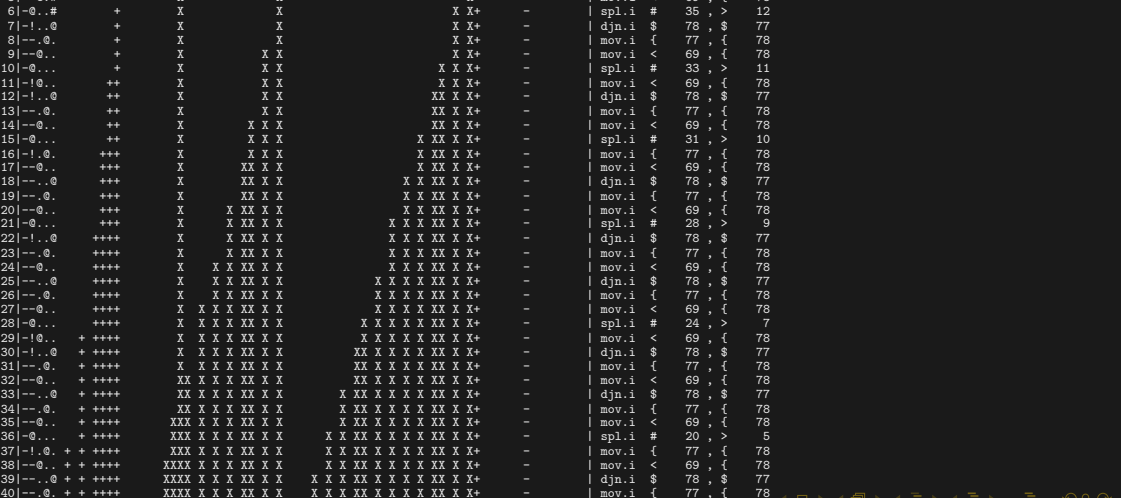
NDusN – 21_5

NE 136.4, ZDNE 136.6

```
;redcode-nano
;name 21_5
;author NDusN
;strategy Evolved by MEVO, good against
    nanoht1 and nanobm07
;assert CORESIZE == 80
mov.i }-16,$22
spl.i #36,>12
mov.i <-11,{-2
mov.i {-3,{-2
djn.i $-2,$-3
end
```

vs. 21_5	Score	Given
Combat Arithmetic	184.5	110.6
Diffraction Limit S5	176.8	117.6
Nonlocality	165.5	119.0
[RS] Nextratulated Sturvi	164.8	124.6
Cold Plasma	159.2	114.8
Nonlocality 2	156.3	120.4
8c09fc1a-4799259f-1747246	156.3	139.4
[RS] Existephall Apris	154.2	122.5
145_13.red	152.8	142.3
Unholy Fire	148.6	140.1
14_12.red	145.8	147.9
Quantum Foam	145.1	151.4
032_42.red	143.7	147.9
128_48.red	142.3	148.6
b69e6908-a5be0bba-ab4445f	140.1	146.5
Transfer Function	139.4	154.2
Pacler Deux	139.4	147.9
Flamewraith	138.0	135.9

NDusN – 21_5 – Execution Trace



Drugganator – Evolvernano151282

NE 105.9, ZDNE 98.1

```
;name Evolvernano151282
;author Drugganator
;strategy evolved
;strategy Mother 137286
;strategy Father 134262
;strategy Generation 66
;redcode-nano
;assert 1

   ORG 1

   SPL.B    #38, <-18
   SPL      #-46, <9
   MOV.I    >54, {46
   DJN      {2, }23
   DAT.AB   <32, }-65
   END
```

vs. Evolvernano151282	Score	Given
[RS] Nextratulated Sturvi	203.5	83.1
Transfer Function	197.9	92.3
8c09fc1a-4799259f-1747246	196.5	90.8
Cold Plasma	191.5	79.6
145_13.red	188.0	99.3
Combat Arithmetic	185.2	98.6
14_12.red	183.1	102.8
128_48.red	183.1	109.2
Quantum Foam	183.1	102.8
[RS] Existephall Apris	181.0	77.5
Unholy Fire	172.5	98.6
Nonlocality	171.8	95.8
032_42.red	161.3	125.4
b69e6908-a5be0bba-ab4445f	159.9	119.7
Pacler Deux	156.3	114.1
Diffraction Limit S5	154.2	131.0
Flamewraith	145.8	128.9
Nonlocality 2	140.8	130.3

Drugganator – Evolvernano151282 – Execution Trace

```
 0|#@###                                                                  | spl.b  #    34 , <     9
 1|#!@##     -                                                           | mov.i  >    54 , {    46
 2|#@.##     -                                  X-      +                | spl.b  #    34 , <     9
 3|#!.@#     -                                  X-      +                | djn.b  {     2 , }    23
 4|#!@.#-     -              -                   X-      +                | mov.i  >    54 , {    46
 5|#@..#-     -              -                  XX-      +                | spl.b  #    34 , <     9
 6|#!..@-     -              -                  XX-      +                | dat.ab <    32 , }    15
 7|#!.@.-     -      +       -         -        XX-      +                | djn.b  {     2 , }    23
 8|#!@..-     -      +       +-        -        XX-      +                | mov.i  >    54 , {    46
 9|#@...-     -      +       +-        -       XXX-      +                | spl.b  #    34 , <     9
10|#!.@.-     -      +       +-        -       XXX-      +                | djn.b  {     2 , }    23
11|#!.@.-     -      +       +--       -       XXX-      +                | djn.b  {     2 , }    23
12|#!@..-     -      +       +---      -       XXX-      +                | mov.i  >    54 , {    46
13|#@...-     -      +       +---      -      XXXX-      +                | spl.b  #    34 , <     9
14|#!@..-     -      +       +---      -      XXXX-      +                | mov.i  >    54 , {    46
15|#@...-     -      +       +---      -     XXXXX-      +                | spl.b  #    34 , <     9
16|#!.@.-     -      +       +---      -     XXXXX-      +                | djn.b  {     2 , }    23
17|#!@..-     -      +       +----     -     XXXXX-      +                | mov.i  >    54 , {    46
18|#@...-     -      +       +----     -    XXXXXX-      +                | spl.b  #    34 , <     9
19|#!.@.-     -      +       +----     -    XXXXXX-      +                | djn.b  {     2 , }    23
20|#!@..-     -      +       +-----    -    XXXXXX-      +                | mov.i  >    54 , {    46
21|#@...-     -      +       +-----    -   XXXXXXX-      +                | spl.b  #    34 , <     9
22|@!...-     -      +       +-----    -   XXXXXXX-      +                | spl.b  #    38 , <    62
23|!!.@.-     -      +       +-----    -   XXXXXXX-      +     -          | djn.b  {     2 , }    23
24|!!@..-     -      +       +------   -   XXXXXXX-      +     -          | mov.i  >    54 , {    46
25|!@...-     -      +       +------   -  XXXXXXXX-      +     -          | spl.b  #    34 , <     9
26|!!...-     -      +       +------   -  XXXXXXXX-      +     -       @| dat.f  $     0 , $     0
27|!!.@.-     -      +       +------   -  XXXXXXXX-      +     -       .| djn.b  {     2 , }    23
28|!!@..-     -      +       +-------  -  XXXXXXXX-      +     -       .| mov.i  >    54 , {    46
29|!@...-     -      +       +-------  - XXXXXXXXX-      +     -       .| spl.b  #    34 , <     9
30|!@...-     -      +       +-------  - XXXXXXXXX-      +     -       .| spl.b  #    34 , <     9
31|@!...-     -      +       +-------  - XXXXXXXXX-      +     -       .| spl.b  #    38 , <    62
32|!!...-     -      +       +-------  - XXXXXXXXX-      +     -      @.| dat.f  $     0 , $     0
33|!!.@.-     -      +       +-------  - XXXXXXXXX-      +     -      ..| djn.b  {     2 , }    23
34|!!@..-     -      +       +-------- - XXXXXXXXX-      +     -      ..| mov.i  >    54 , {    46
35|!@...-     -      +       +-------- -XXXXXXXXXX-      +     -      ..| spl.b  #    34 , <     9
36|!!...-     -      +       +-------- - XXXXXXXXX-      +     -      @..| dat.f  $     0 , $     0
37|!!.@.-     -      +       +-------- - XXXXXXXXX-      +     -      ...| djn.b  {     2 , }    23
38|!!@..-     -      +       +---------- XXXXXXXXX-      +     -      ...| mov.i  >    54 , {    46
39|!@...-     -      +       +----------XXXXXXXXXX-      +     -      ...| spl.b  #    34 , <     9
40|!!@..-     -      +       +----------XXXXXXXXXX-      +     -      ...| mov.i  >    54 , {    46
```

Drugganator – Evolvernano173038

NE 107.0, ZDNE 99.2

```
;name Evolvernano173038
;author Drugganator
;url https://forum.croydondeluxe.co.uk
;strategy evolved
;strategy Mother 169421
;strategy Father -1
;strategy Generation 70
;redcode-nano
;assert 1

   ORG 1

   SPL.B    #38, <-18
   SPL      #-41, <9
   MOV.I    >54, {46
   DJN      {2, }23
   DAT.AB   <32, }-65
   END
```

vs. Evolvernano173038	Score	Given
[RS] Nextratulated Sturvi	200.0	85.9
8c09fc1a-4799259f-1747246	195.8	92.3
Transfer Function	194.4	95.1
Cold Plasma	193.0	78.9
145_13.red	186.6	100.0
Combat Arithmetic	185.2	100.7
14_12.red	184.5	102.1
Quantum Foam	181.0	104.9
[RS] Existephall Apris	180.3	78.9
128_48.red	178.2	114.8
Nonlocality	173.9	95.8
Unholy Fire	173.2	97.2
032_42.red	160.6	124.6
b69e6908-a5be0bba-ab4445f	159.2	121.1
Diffraction Limit S5	154.2	131.0
Pacler Deux	150.7	119.0
Flamewraith	150.0	124.6
Nonlocality 2	137.3	133.1

Drugganator – Evolvernano173038 – Execution Trace

```
 0|#@###                                                                  | spl.b  #    39 , <     9
 1|#!@##     -                                                           | mov.i  >    54 , {    46
 2|#@.##     -                                    X-      +              | spl.b  #    39 , <     9
 3|#!.@#     -                                    X-      +              | djn.b  {     2 , }    23
 4|#!@.#-    -              -                     X-      +              | mov.i  >    54 , {    46
 5|#@..#-    -              -                    XX-      +              | spl.b  #    39 , <     9
 6|#!..@-    -              -                    XX-      +              | dat.ab <    32 , }    15
 7|#!.@.-    -      +       -         -          XX-      +              | djn.b  {     2 , }    23
 8|#!@..-    -      +       +-        -          XX-      +              | mov.i  >    54 , {    46
 9|#@...-    -      +       +-        -         XXX-      +              | spl.b  #    39 , <     9
10|#!.@.-    -      +       +-        -         XXX-      +              | djn.b  {     2 , }    23
11|#!.@.-    -      +       +--       -         XXX-      +              | djn.b  {     2 , }    23
12|#!@..-    -      +       +---      -         XXX-      +              | mov.i  >    54 , {    46
13|#@...-    -      +       +---      -        XXXX-      +              | spl.b  #    39 , <     9
14|#!@..-    -      +       +---      -        XXXX-      +              | mov.i  >    54 , {    46
15|#@...-    -      +       +---      -       XXXXX-      +              | spl.b  #    39 , <     9
16|#!.@.-    -      +       +---      -       XXXXX-      +              | djn.b  {     2 , }    23
17|#!@..-    -      +       +----     -       XXXXX-      +              | mov.i  >    54 , {    46
18|#@...-    -      +       +----     -      XXXXXX-      +              | spl.b  #    39 , <     9
19|#!.@.-    -      +       +----     -      XXXXXX-      +              | djn.b  {     2 , }    23
20|#!@..-    -      +       +-----    -      XXXXXX-      +              | mov.i  >    54 , {    46
21|#@...-    -      +       +-----    -     XXXXXXX-      +              | spl.b  #    39 , <     9
22|@!...-    -      +       +-----    -     XXXXXXX-      +              | spl.b  #    38 , <    62
23|!!.@.-    -      +       +-----    -     XXXXXXX-      +      -       | djn.b  {     2 , }    23
24|!!@..-    -      +       +------   -     XXXXXXX-      +      -       | mov.i  >    54 , {    46
25|!@...-    -      +       +------   -    XXXXXXXX-      +      -       | spl.b  #    39 , <     9
26|!!...-    -      +       +------   -    XXXXXXXX-      +      -      @| dat.f  $     0 , $     0
27|!!.@.-    -      +       +------   -    XXXXXXXX-      +      -      .| djn.b  {     2 , }    23
28|!!@..-    -      +       +-------  -    XXXXXXXX-      +      -      .| mov.i  >    54 , {    46
29|!@...-    -      +       +-------  -   XXXXXXXXX-      +      -      .| spl.b  #    39 , <     9
30|!@...-    -      +       +-------  -   XXXXXXXXX-      +      -      .| spl.b  #    39 , <     9
31|@!...-    -      +       +-------  -   XXXXXXXXX-      +      -      .| spl.b  #    38 , <    62
32|!!...-    -      +       +-------  -   XXXXXXXXX-      +      -     @.| dat.f  $     0 , $     0
33|!!.@.-    -      +       +-------  -   XXXXXXXXX-      +      -     ..| djn.b  {     2 , }    23
34|!!@..-    -      +       +--------  -  XXXXXXXXX-      +      -     ..| mov.i  >    54 , {    46
35|!@...-    -      +       +--------  - XXXXXXXXXX-      +      -     ..| spl.b  #    39 , <     9
36|!!...-    -      +       +--------  - XXXXXXXXXX-      +      -    @..| dat.f  $     0 , $     0
37|!!.@.-    -      +       +--------  - XXXXXXXXXX-      +      -    ...| djn.b  {     2 , }    23
38|!!@..-    -      +       +---------- XXXXXXXXXX-      +      -    ...| mov.i  >    54 , {    46
39|!@...-    -      +       +----------XXXXXXXXXX-      +      -    ...| spl.b  #    39 , <     9
40|!!@..-    -      +       +----------XXXXXXXXXX-      +      -    ...| mov.i  >    54 , {    46
```

koorogi – Astarion

NE 106.7, ZDNE 104.0

```
;redcode
;name Astarion
;author koorogi
;strategy evolved
;created 2025.06.14
;assert CORESIZE == 80

    ORG 0

    SPL.BA  #59, >19
    SPL.BA  #30, >68
    MOV.I   #27, <35
    SPL.F   $29, {76
    JMN.A   >69, $8

    END
```

vs. Astarion	Score	Given
145_13.red	217.6	78.2
Diffraction Limit S5	213.4	82.4
8c09fc1a-4799259f-1747246	197.2	93.7
128_48.red	192.3	95.1
Transfer Function	191.5	81.7
b69e6908-a5be0bba-ab4445f	186.6	87.3
14_12.red	183.1	107.0
Unholy Fire	173.9	83.1
Quantum Foam	172.5	119.7
[RS] Nextratulated Sturvi	169.7	108.5
Nonlocality 2	162.0	94.4
Pacler Deux	153.5	88.0
Nonlocality	152.1	105.6
032_42.red	152.1	128.9
Cold Plasma	150.7	102.1
Flamewraith	146.5	97.9
[RS] Existephall Apris	143.7	105.6
Combat Arithmetic	118.3	173.2

koorogi – Astarion – Execution Trace

```
 0|@####                                                  | spl.ba #    59 , >    19
 1|!@###           +                                      | spl.ba #    30 , >    68
 2|@!###           +                                  +   | spl.ba #    59 , >    19
 3|!!@##           +                                  +   | mov.i  #    27 , <    35
 4|!@.##           +              X-                  +   | spl.ba #    30 , >    68
 5|!@.##           +              X-                  +   | spl.ba #    30 , >    68
 6|@!.##           +              X-                  +   | spl.ba #    59 , >    19
 7|!!.@#           +              X-                  +   | spl.f  $    29 , {    76
 8|!!@.#           +           !  X-                  +  -| mov.i  #    27 , <    35
 9|!@..#           +           !  XX-                 +  -| spl.ba #    30 , >    68
10|!!@.#           +           !  XX-                 +  -| mov.i  #    27 , <    35
11|!@..#           +           ! XXX-                 +  -| spl.ba #    30 , >    68
12|!@..#           +           ! XXX-                 +  -| spl.ba #    30 , >    68
13|@!..#           +           ! XXX-                 +  -| spl.ba #    59 , >    19
14|!!..@           +           ! XXX-                 +  -| jmn.a  >    69 , $     8
15|!!...      ?    +           @ XXX-                 +  +  -| dat.f  $     0 , $     0
16|!!.@.      ?    +           . XXX-                 +  +  -| spl.f  $    29 , {    76
17|!!@..      ?    +           ! XXX-                 +  +  -| mov.i  #    27 , <    35
18|!@...      ?    +           !XXXX-                 +  +  -| spl.ba #    30 , >    68
19|!!.@.      ?    +           !XXXX-                 +  +  -| spl.f  $    29 , {    76
20|!!@..      ?    +           !XXXX-                 +  +  -| mov.i  #    27 , <    35
21|!@...      ?    +           XXXXX-                 +  +  -| spl.ba #    30 , >    68
22|!!@..      ?    +           XXXXX-                 +  +  -| mov.i  #    27 , <    35
23|!@...      ?    +          XXXXXX-                 +  +  -| spl.ba #    30 , >    68
24|!@...      ?    +          XXXXXX-                 +  +  -| spl.ba #    30 , >    68
25|@!...      ?    +          XXXXXX-                 +  +  -| spl.ba #    59 , >    19
26|!!...@     ?    +          XXXXXX-                 +  +  -| dat.f  $     0 , $     0
27|!!..@.     ?    +          XXXXXX-                 +  +  -| jmn.a  >    69 , $     8
28|!!....     ?    +          X@XXXX-                 +  +  -| mov.i  #    27 , <    35
29|!!.@..     ?    +          X.XXXX-              X- +  +  -| spl.f  $    29 , {    76
30|!!@...     ?    +          X!XXXX-              X- +  +  -| mov.i  #    27 , <    35
31|!@....     ?    +         XX!XXXX-              X- +  +  -| spl.ba #    30 , >    68
32|!!..@.     ?    +         XX!XXXX-              X- +  +  -| jmn.a  >    69 , $     8
33|!!.....     ?    +         XX@XXXX-              X- +  +  -| mov.i  #    27 , <    35
34|!!.@..     ?    +         XX.XXXX-             XX- +  +  -| spl.f  $    29 , {    76
35|!!@...     ?    +         XX!XXXX-             XX- +  +  -| mov.i  #    27 , <    35
36|!@....     ?    +        XXX!XXXX-             XX- +  +  -| spl.ba #    30 , >    68
37|!!.@..     ?    +        XXX!XXXX-             XX- +  +  -| spl.f  $    29 , {    76
38|!!@...     ?    +        XXX!XXXX-             XX- +  +  -| mov.i  #    27 , <    35
39|!@....     ?    +       XXXX!XXXX-             XX- +  +  -| spl.ba #    30 , >    68
40|!!@...     ?    +       XXXX!XXXX-             XX- +  +  -| mov.i  #    27 , <    35
```

koorogi – Karlach

NE 154.0, ZDNE 147.6

```
;redcode
;name Karlach
;author koorogi
;strategy evolved
;created 2025.06.09
;assert CORESIZE == 80

    ORG 0

    SPL.F   #55, >26
    MOV.I   #64, }1
    SPL.I   {45, }61
    SPL.F   #54, {39
    DJN.AB  <30, }65

    END
```

vs. Karlach	Score	Given
Diffraction Limit S5	153.5	138.7
145_13.red	152.1	131.0
b69e6908-a5be0bba-ab4445f	149.3	126.1
128_48.red	147.9	135.2
8c09fc1a-4799259f-1747246	131.0	150.0
Flamewraith	125.4	116.9
[RS] Nextratulated Sturvi	123.9	157.7
Nonlocality	123.2	125.4
14_12.red	123.2	154.9
[RS] Existephall Apris	120.4	122.5
Nonlocality 2	116.9	127.5
032_42.red	113.4	162.0
Pacler Deux	111.3	126.1
Transfer Function	107.7	147.9
Cold Plasma	103.5	137.3
Unholy Fire	100.7	143.0
Quantum Foam	91.5	193.0
Combat Arithmetic	54.2	227.5

koorogi – Karlach – Execution Trace

```
 0|@####                                                    | spl.f  #    55 , >    26
 1|!@###                 +                                  | mov.i  #    64 , }     1
 2|@.+##                 +                 X                | spl.f  #    55 , >    26
 3|!.@##                 +                 X                | spl.i  {    46 , }    61
 4|!@.##                 +                 !-          +    | mov.i  #    64 , }     1
 5|@.+##                 +                 !X          +    | spl.f  #    55 , >    26
 6|!.+@#                 +                 !X          +    | spl.f  #    54 , {    39
 7|!.+!#                 +           -     @X          +    | mov.i  #    64 , }     1
 8|!.@!#                 +     X     -     .+          +    | spl.i  {    47 , }    61
 9|!@.!#                 +     X     -     .!-         +    | mov.i  #    64 , }     1
10|@.+!#                 +     X     -     .!X         +    | spl.f  #    55 , >    26
11|!.+!@                 +     X     -     .!X         +    | djn.ab <    30 , }    65
12|!.+@.                 +     X -   -     .!X         +  - | spl.f  #    54 , {    39
13|!.+!.                 +     X -   -     .@X         +  - | mov.i  #    65 , }     1
14|!.+@.                 +     XX-   -     ..+         +  - | spl.f  #    54 , {    39
15|!.+!.                 +     XX-   -     .@+         +  - | mov.i  #    65 , }     1
16|!.@!.                 +     XXX   -     ..+         +  - | spl.i  {    48 , }    61
17|!@.!.                 +     XXX   -     ..!-        +  - | mov.i  #    64 , }     1
18|@.+!.                 +     XXX   -     ..!X        +  - | spl.f  #    55 , >    26
19|!.+!.                 +     X@X   -     ..!X        +  - | mov.i  #    65 , }     1
20|!.+!@          X      +     X.+   -     ..!X        +  - | djn.ab <    30 , }    65
21|!.+@.          X      +     X.-   -     ..!X        +  + | spl.f  #    54 , {    39
22|!.+!.          X      +     X.-   -     ..@X        +  + | mov.i  #    66 , }     1
23|!.+!@          X      +     X.X   -     ...+        +  + | djn.ab <    30 , }    65
24|!.+@.          X      +     X.-   -     ...+        +  +-- | spl.f  #    54 , {    39
25|!.+!.          X      +     X.-   -     ..@+        +  +-- | mov.i  #    66 , }     1
26|!.+@.          X      +     X.-X  -     ...+        +  +-- | spl.f  #    54 , {    39
27|!.+!.          X      +     X.-X  -     ..@+        +  +-- | mov.i  #    66 , }     1
28|!.@!.          X      +     X.-XX -     ...+        +  +-- | spl.i  {    49 , }    61
29|!@.!.          X      +     X.-XX -     ...!-       +  +-- | mov.i  #    64 , }     1
30|@.+!.          X      +     X.-XX -     ...!X       +  +-- | spl.f  #    55 , >    26
31|!.+!.          X      +     X.0XX -     ...!X       +  +-- | mov.i  #    66 , }     0
32|!.+!.          XX     +     X.0XX -     ...!X       +  +-- | mov.i  #    67 , }     0
33|!.+!@          XXX    +     X.+XX -     ...!X       +  +-- | djn.ab <    30 , }    65
34|!.+@.          XXX    +     X.-XX -     ...!X       +  +--- | spl.f  #    54 , {    39
35|!.+!.          XXX    +     X.-XX -     ...@X       +  +--- | mov.i  #    67 , }     1
36|!.+!.          XXX    +     X.0XX -     ....+       +  +--- | mov.i  #    68 , }    79
37|!.+!@         XXXX    +     X+.XX -     ....+       +  +--- | djn.ab <    30 , }    65
38|!.+@.         XXXX    +     X+-XX -     ....+       +  +---- | spl.f  #    54 , {    39
39|!.+!.         XXXX    +     X+-XX -     ...@+       +  +---- | mov.i  #    67 , }     1
40|!.+!@         XXXX    +     X+-XX -     ....+       +  +---- | djn.ab <    30 , }    65
```

lain – gazette

NE 159.7, ZDNE 149.0

```
;redcode-nano
;name gazette
;author lain
;strategy paper for the nano tournament 25

ORG         0
        SPL.B  #     0, >    54
        MOV.I  }    -1, }     1
        SPL.B  {    44, >    54
        MOV.I  {    70, {    27
        DJN.X  $    -1, {    39
        END
```

vs. gazette	Score	Given
Nonlocality	143.0	119.7
128_48.red	140.1	146.5
Flamewraith	134.5	132.4
Nonlocality 2	130.3	134.5
[RS] Existephall Apris	129.6	116.9
b69e6908-a5be0bba-ab4445f	127.5	148.6
Cold Plasma	123.2	127.5
145_13.red	121.1	161.3
Pacler Deux	119.7	138.7
Transfer Function	117.6	157.7
032_42.red	116.2	164.8
Unholy Fire	114.8	150.7
Diffraction Limit S5	113.4	170.4
8c09fc1a-4799259f-1747246	110.6	171.8
14_12.red	109.2	174.6
Quantum Foam	105.6	183.8
Combat Arithmetic	102.1	176.1
[RS] Nextratulated Sturvi	94.4	191.5

lain – gazette – Execution Trace

```
 0|@####                                                    | spl.b  #     0 , >    54
 1|!@###                                  +                 | mov.i  }    79 , }     1
 2|@.+##                        X         +                 | spl.b  #     1 , >    54
 3|!.@##                        X         +                 | spl.b  {    45 , >    54
 4|!@.##                        !-        + +               | mov.i  }    79 , }     1
 5|@.+##                        !X        + +               | spl.b  #     2 , >    54
 6|!.+@#                        !X        + +               | mov.i  {    70 , {    27
 7|!.+.#              X-        @X        + +         -     | spl.b  #     0 , >    54
 8|!.@.#        +     X-        !X        + +         -     | spl.b  {    46 , >    54
 9|!@..#        +     X-        !!-       + +         -     | mov.i  }    79 , }     1
10|@.+.#        +     X-        !!X       + +         -     | spl.b  #     3 , >    54
11|!.+.@        +     X-        !!X       + +         -     | djn.x  $    79 , {    39
12|!.+..        +     X-     --  !@X       + +         -     | mov.i  }    79 , }     1
13|!.+..  X     +     X-     --  @.+       + +         -     | spl.b  #     1 , >    54
14|!.+@.  X     +     X-     --  !.+       + +         -     | mov.i  {    70 , {    27
15|!.+..  X     +    XX-     --  !@+       + +         -     | mov.i  }    79 , }     1
16|!.@..  XX    +    XX-     --  +.+       + +         -     | spl.b  {    47 , >    54
17|!@...  XX    +    XX-     --  +.!-      + +         -     | mov.i  }    79 , }     1
18|@.+..  XX    +    XX-     --  +.!X      + +         -     | spl.b  #     4 , >    54
19|!.+@.  XX    +    XX-     --  +.!X      + +         -     | mov.i  {    70 , {    27
20|!.+..  XX    +   XXX-     --  +.@X      + +         -     | spl.b  {    48 , >    54
21|!.+..  X!-   + +  XXX-     --  +@.X      + +         -     | mov.i  }    79 , }     1
22|!.+..  X!X   + +  XXX-     --  @.+X      + +         -     | spl.b  #     3 , >    54
23|!.+.@  X!X   + +  XXX-     --  !.+X      + +         -     | djn.x  $    79 , {    39
24|!.+..  X!X   + +  XXX-    ---  !.@X      + +         -     | spl.b  {    49 , >    54
25|!.+@.  X!!-  + +  XXX-    ---  !..X      + +         -     | mov.i  {    70 , {    27
26|!.+..  X!!-  + +  XXXX-   ---  !.@X      + +         -     | spl.b  {    49 , >    54
27|!.@..  X!!-  + +  XXXX-   ---  !..X      + +         -     | spl.b  {    48 , >    54
28|!@...  X!!-  + +  XXXX-   ---  !..!-     + +         -     | mov.i  }    79 , }     1
29|@.+..  X!!-  + +  XXXX-   ---  !..!X     + +         -     | spl.b  #     5 , >    54
30|!.+.@  X!!-  + +  XXXX-   ---  !..!X     + +         -     | djn.x  $    79 , {    39
31|!.+..  X!!-  + +  XXXX-  ----  !..@X     + +         -     | mov.i  {    70 , {    27
32|!.+..  X@!-  + +  XXXX-  -----  !...X     + +         - X-  | mov.i  }    79 , }     1
33|!.+..  +.+-  + +  XXXX-  -----  !.@.X     + +   X     - X-  | spl.b  {    49 , >    54
34|!.+..  !.+-  + +  XXXX-  -----  !@..X     + +   X     - X-  | mov.i  }    79 , }     1
35|!.+..  !.+X  + +  XXXX-  -----  @.+.X     + +   X     - X-  | spl.b  #     4 , >    54
36|!.+@.  !.+X  + +  XXXX-  -----  !.+.X     + +   X     - X-  | mov.i  {    70 , {    27
37|!.+..  !.+X  + +  XXXXX-  -----  !.+@X     + +   X     - X-  | mov.i  {    70 , {    27
38|!.+..  !.@X  + +  XXXXX-  -----  !.+.X     + +   X     -XX-  | spl.b  {    49 , >    54
39|!.+.@  !..X  + +  XXXXX-  -----  !.+.X     + +   !-  +  -XX-  | djn.x  $    79 , {    39
40|!.+..  !..X  + +  XXXXX-  -----  !.+@X     + +   !-  +  -XX-  | mov.i  {    70 , {    27
```

lain – conduit

NE 150.9, ZDNE 138.8

```
;redcode-nano
;name conduit
;author lain
;strategy stream for the nano tournament 25
;assert 1

ORG         0
      SPL.B  #    41, >     9
      MOV.I  >    56, {    39
      MOV.I  #    75, >    62
      MOV.I  >    25, {    79
      DJN.F  $    -3, <    17
      END
```

vs. conduit	Score	Given
145_13.red	182.4	114.8
[RS] Existephall Apris	174.6	102.8
Cold Plasma	172.5	109.2
Flamewraith	157.0	121.1
Transfer Function	151.4	140.8
[RS] Nextratulated Sturvi	147.9	147.9
128_48.red	146.5	144.4
Diffraction Limit S5	146.5	146.5
Combat Arithmetic	146.5	150.7
Quantum Foam	143.7	154.2
8c09fc1a-4799259f-1747246	138.7	159.9
b69e6908-a5be0bba-ab4445f	138.0	157.0
Nonlocality 2	137.3	147.9
Pacler Deux	135.9	140.1
032_42.red	134.5	159.9
14_12.red	126.8	171.1
Unholy Fire	119.0	165.5
Nonlocality	109.2	168.3

lain – conduit – Execution Trace

```
 0|@####                                                                  | spl.b  #    41 , >     9
 1|!@###   +                                                              | mov.i  >    56 , {    39
 2|@.###   +                      X-              +                       | spl.b  #    41 , >     9
 3|!.@##   +                      X-              +                       | mov.i  #    75 , >    62
 4|!@.##   +                      X-              +       X               | mov.i  >    56 , {    39
 5|@..##   +                     XX-              +       X               | spl.b  #    41 , >     9
 6|!..@#   +                     XX-              +       X               | mov.i  >    25 , {    79
 7|!.@.#   +             +       XX-              +       X         X     | mov.i  #    74 , >    62
 8|!@..#   +             +      XX-       X       +       +         X     | mov.i  >    56 , {    39
 9|@...#   +             +     XXX-       X       +       +         X     | spl.b  #    41 , >     9
10|!...@   +             +     XXX-       X       +       +         X     | djn.f  $    77 , <    17
11|!..@.   +         --  +     XXX-       X       +       +         X     | mov.i  >    25 , {    79
12|!.@..   +         --  +     XXX-       X       +       +        XX     | mov.i  #    73 , >    62
13|!@...   +         --  +     XXX-      XX       +       +        XX     | mov.i  >    56 , {    39
14|@....   +         --  +    XXXX-      XX       +       +        XX     | spl.b  #    41 , >     9
15|!@...   +         --  +    XXXX-      XX       +       +        XX     | mov.i  >    56 , {    39
16|!...@   +         --  +   XXXXX-      XX       +       +        XX     | djn.f  $    77 , <    17
17|!..@.   +        ---  +   XXXXX-      XX       +       +        XX     | mov.i  >    25 , {    79
18|!.@..   +        ---  +   XXXXX-      XX       +       +       XXX     | mov.i  #    72 , >    62
19|!@...   +        ---  +   XXXXX-     XXX       +       +       XXX     | mov.i  >    56 , {    39
20|@....   +        ---  +  XXXXXX-     XXX       +       +       XXX     | spl.b  #    41 , >     9
21|!.@..   +        ---  +  XXXXXX-     XXX       +       +       XXX     | mov.i  #    72 , >    62
22|!@...   +        ---  +  XXXXXX-    XXXX       +       +       XXX     | mov.i  >    56 , {    39
23|!...@   +        ---  +  XXXXXX-    XXXX       +       +       XXX     | djn.f  $    77 , <    17
24|!..@.   +       ----  +  XXXXXXX-   XXXX       +       +       XXX     | mov.i  >    25 , {    79
25|!.@..   +       ----  +  XXXXXXX-   XXXX       +       +      XXXX     | mov.i  #    71 , >    62
26|!@...   +       ----  +  XXXXXXX-  XXXXX       +       +      XXXX     | mov.i  >    56 , {    39
27|@....   +       ----  + XXXXXXXX-  XXXXX       +       +      XXXX     | spl.b  #    41 , >     9
28|!..@.   +       ----  + XXXXXXXX- XXXXXX       +       +      XXXX     | mov.i  >    25 , {    79
29|!.@..   +       ----  + XXXXXXXX- XXXXXX       +       +     XXXXX     | mov.i  #    70 , >    62
30|!@...   +       ----  + XXXXXXXX- XXXXXX       +       +     XXXXX     | mov.i  >    56 , {    39
31|!...@   +       ----  + XXXXXXXX- XXXXXX       +       +     XXXXX     | djn.f  $    77 , <    17
32|!..@.   +      -----  + XXXXXXXX- XXXXXX       +       +     XXXXX     | mov.i  >    25 , {    79
33|!.@..   +      -----  + XXXXXXXX- XXXXXX       +       +    XXXXXX     | mov.i  #    69 , >    62
34|!@...   +      -----  + XXXXXXXX- XXXXXXX      +       +    XXXXXX     | mov.i  >    56 , {    39
35|@....   +      -----  +XXXXXXXXX- XXXXXXX      +       +    XXXXXX     | spl.b  #    41 , >     9
36|!...@   +      -----  +XXXXXXXXX- XXXXXXX      +       +    XXXXXX     | djn.f  $    77 , <    17
37|!..@.   +     ------  +XXXXXXXXX- XXXXXXX      +       +    XXXXXX     | mov.i  >    25 , {    79
38|!.@..   +     ------  +XXXXXXXXX- XXXXXXX      +       +   XXXXXXX     | mov.i  #    68 , >    62
39|!@...   +     ------  +XXXXXXXXX- XXXXXXXX     +       +   XXXXXXX     | mov.i  >    56 , {    39
40|!...@   +     ------ +XXXXXXXXXX- XXXXXXXX     +       +   XXXXXXX     | djn.f  $    77 , <    17
```

Telkkar – Discreet Foghorn

NE 120.4, ZDNE 113.4

```
;redcode-nano
;name Discreet Foghorn
;author Telkkar
;date 2025-06-14
;assert CORESIZE == 80

SPL.a # 47, > -42
MOV.i # 44, < 16
ADD.f # 27, > 21
MOV.i $ 73, < 56
JMP.i $ 79, > -24
```

vs. Discreet Foghorn	Score	Given
Quantum Foam	197.9	96.5
145_13.red	197.2	100.0
Nonlocality	195.1	83.1
8c09fc1a-4799259f-1747246	189.4	109.2
[RS] Nextratulated Sturvi	185.9	109.9
[RS] Existephall Apris	182.4	93.7
032_42.red	181.7	109.9
Combat Arithmetic	178.2	114.8
b69e6908-a5be0bba-ab4445f	176.8	104.9
Diffraction Limit S5	173.2	122.5
Flamewraith	171.8	100.0
128_48.red	169.0	122.5
Unholy Fire	166.2	117.6
Cold Plasma	164.1	109.2
Nonlocality 2	155.6	121.8
Pacler Deux	152.1	124.6
14_12.red	147.2	149.3
Transfer Function	139.4	145.8

Telkkar – Discreet Foghorn – Execution Trace

```
 0|@####                                                  | spl.a  #    47 , >    38
 1|!@###                  +                               | mov.i  #    44 , <    16
 2|@.###          X-      +                               | spl.a  #    47 , >    38
 3|!.@##          X-      +                               | add.f  #    27 , >    21
 4|!@.##          X-  *   +                               | mov.i  #    44 , <    16
 5|@..##         XX-  *   +                               | spl.a  #    47 , >    38
 6|!..@#         XX-  *   +                               | mov.i  $    73 , <    56
 7|!.@.#         XX-  *   +                    X-         | add.f  #    27 , >    21
 8|!@..#         XX-  +   +   *                X-         | mov.i  #    44 , <    16
 9|@...#        XXX-  +   +   *                X-         | spl.a  #    47 , >    38
10|!...@        XXX-  +   +   *                X-         | jmp.i  $    79 , >    56
11|!..@.        XXX-  +   +   *                X-+        | mov.i  $    73 , <    56
12|!.@..        XXX-  +   +   *               XX-+        | add.f  #    27 , >    21
13|!@...        XXX-  +   +   **              XX-+        | mov.i  #    44 , <    16
14|@....       XXXX-  +   +   **              XX-+        | spl.a  #    47 , >    38
15|!..@.       XXXX-  +   +   **              XX-+        | mov.i  $    73 , <    56
16|!...@       XXXX-  +   +   **             XXX-+        | jmp.i  $    79 , >    56
17|!..@.       XXXX-  +   +   **             XXX-+        | mov.i  $    73 , <    56
18|!.@..       XXXX-  +   +   **            XXXX-+        | add.f  #    27 , >    21
19|!@...       XXXX-  +   +   ***           XXXX-+        | mov.i  #    44 , <    16
20|@....      XXXXX-  +   +   ***           XXXX-+        | spl.a  #    47 , >    38
21|!...@      XXXXX-  +   +   ***           XXXX-+        | jmp.i  $    79 , >    56
22|!..@.      XXXXX-  +   +   ***           XXXX-+        | mov.i  $    73 , <    56
23|!...@      XXXXX-  +   +   ***          XXXXX-+        | jmp.i  $    79 , >    56
24|!..@.      XXXXX-  +   +   ***          XXXXX-+        | mov.i  $    73 , <    56
25|!.@..      XXXXX-  +   +   ***         XXXXXX-+        | add.f  #    27 , >    21
26|!@...      XXXXX-  +   +   ****        XXXXXX-+        | mov.i  #    44 , <    16
27|@....     XXXXXX-  +   +   ****        XXXXXX-+        | spl.a  #    47 , >    38
28|!..@.     XXXXXX-  +   +   ****        XXXXXX-+        | mov.i  $    73 , <    56
29|!...@     XXXXXX-  +   +   ****       XXXXXXX-+        | jmp.i  $    79 , >    56
30|!..@.     XXXXXX-  +   +   ****       XXXXXXX-+        | mov.i  $    73 , <    56
31|!...@     XXXXXX-  +   +   ****      XXXXXXXX-+        | jmp.i  $    79 , >    56
32|!..@.     XXXXXX-  +   +   ****      XXXXXXXX-+        | mov.i  $    73 , <    56
33|!.@..     XXXXXX-  +   +   ****     XXXXXXXXX-+        | add.f  #    27 , >    21
34|!@...     XXXXXX-  +   +   ***** XXXXXXXXX-+           | mov.i  #    44 , <    16
35|@....    XXXXXXX-  +   +   ***** XXXXXXXXX-+           | spl.a  #    47 , >    38
36|!...@    XXXXXXX-  +   +   ***** XXXXXXXXX-+           | jmp.i  $    79 , >    56
37|!..@.    XXXXXXX-  +   +   ***** XXXXXXXXX-+           | mov.i  $    73 , <    56
38|!...@    XXXXXXX-  +   +   *****XXXXXXXXX-+           | jmp.i  $    79 , >    56
39|!..@.    XXXXXXX-  +   +   *****XXXXXXXXX-+           | mov.i  $    73 , <    56
40|!...@    XXXXXXX-  +   +   ****XXXXXXXXXX-+           | jmp.i  $    79 , >    56
```

Telkkar – Eventuality Of Goats

NE 131.7, ZDNE 125.9

```
;redcode-nano
;name Eventuality Of Goats
;author Telkkar
;date 2025-06-14
;assert CORESIZE == 80

SPL.f # 43, > 17
MOV.i # 4, > 67
SPL.ba $ 53, > 43
DJN.a $ 78, > 17
DAT.ab } 42, # 69
```

vs. Eventuality Of Goats	Score	Given
[RS] Nextratulated Sturvi	188.0	103.5
Nonlocality	174.6	81.7
Quantum Foam	165.5	125.4
145_13.red	163.4	127.5
[RS] Existephall Apris	157.7	90.1
Transfer Function	157.7	117.6
Cold Plasma	152.1	103.5
Nonlocality 2	149.3	100.7
8c09fc1a-4799259f-1747246	147.2	143.0
128_48.red	145.1	147.2
14_12.red	144.4	144.4
Combat Arithmetic	137.3	152.1
Unholy Fire	132.4	113.4
Flamewraith	128.9	107.7
032_42.red	128.2	166.2
b69e6908-a5be0bba-ab4445f	128.2	147.2
Diffraction Limit S5	125.4	165.5
Pacler Deux	117.6	128.2

Telkkar – Eventuality Of Goats – Execution Trace

```
 0|@####                                                    | spl.f  #    43 , >    17
 1|!@###          +                                         | mov.i  #     4 , >    67
 2|@.###          +                                    X    | spl.f  #    43 , >    17
 3|!.@##          +                                    X    | spl.ba $    53 , >    43
 4|!@.##          +                  +         !       X    | mov.i  #     4 , >    67
 5|@..##          +                  +         X       +    | spl.f  #    43 , >    17
 6|!...@#         +                  +         X       +    | djn.a  $    78 , >    17
 7|!...#          +  -               +         @       +    | mov.i  #     4 , >    67
 8|!.@.#          +  -            X  +         .       +    | spl.ba $    53 , >    43
 9|!@..#          +  -            X  +         !       +    | mov.i  #     4 , >    67
10|@...#          +  -            X  +        !X       +    | spl.f  #    43 , >    17
11|!@..#          +  -            X  +        !X       +    | mov.i  #     4 , >    67
12|!...#          +  -            X  +       !@X       +    | mov.i  #     4 , >    67
13|!..@#          +  -           XX  +       !.X       +    | djn.a  $    78 , >    17
14|!...#          +  +-          XX  +       @.X       +    | mov.i  #     4 , >    67
15|!.@.#          +  +-       X  +X  +       ..X       +    | spl.ba $    53 , >    43
16|!@..#          +  +-       X  +X  +       !.X       +    | mov.i  #     4 , >    67
17|@...#          +  +-       X  +X  +       !.XX      +    | spl.f  #    43 , >    17
18|!.@.#          +  +-       X  +X  +       !.XX      +    | spl.ba $    53 , >    43
19|!...#          +  +-       X  +X  +       !.@X      +    | mov.i  #     4 , >    67
20|!@..#          +  +-       X  +XX+       !..X      +    | mov.i  #     4 , >    67
21|!...#          +  +-       X  +XX+       !@.XX     +    | mov.i  #     4 , >    67
22|!..@#          +  +-      XX  ++X+       !..XX     +    | djn.a  $    78 , >    17
23|!...#          +  +--     XX  ++X+       @..XX     +    | mov.i  #     4 , >    67
24|!.@.#          +  +--     XX  ++X+       ...XX     +    | spl.ba $    53 , >    43
25|!@..#          +  +--     XX  ++X+       !..XX     +    | mov.i  #     4 , >    67
26|@...#          +  +--     XX  ++X+       !..XXX    +    | spl.f  #    43 , >    17
27|!..@#          +  +--     XX  ++X+       !..XXX    +    | djn.a  $    78 , >    17
28|!...#          +  +---    XX  ++X+       @..XXX    +    | mov.i  #     4 , >    67
29|!...#          +  +---   XXX  ++X+       ...@XX    +    | mov.i  #     4 , >    67
30|!.@.#          +  +---   XXX  ++X+     X ....XX    +    | spl.ba $    53 , >    43
31|!...#          +  +---   XXX  ++X+     X !.@.XX    +    | mov.i  #     4 , >    67
32|!@..#          +  +---   XXX  ++++     X !...XX    +    | mov.i  #     4 , >    67
33|!...#          +  +---   XXX  ++++     X !@..XXX   +    | mov.i  #     4 , >    67
34|!..@#          +  +---   XXX  ++++     X !...XXX   +    | djn.a  $    78 , >    17
35|!...#          +  +----  XXX  ++++     X @...XXX   +    | mov.i  #     4 , >    67
36|!.@.#          +  +----  XXXX ++++     X ....XXX   +    | spl.ba $    53 , >    43
37|!@..#          +  +----  XXXX ++++     X !...XXX   +    | mov.i  #     4 , >    67
38|@...#          +  +----  XXXX ++++     X !...XXXX  +    | spl.f  #    43 , >    17
39|!@..#          +  +----  XXXX ++++     X !...XXXX  +    | mov.i  #     4 , >    67
40|!...#          +  +----  XXXX ++++     X !@..XXXXX +    | mov.i  #     4 , >    67
```

raptor – hymn of the hollow star

NE 152.2, ZDNE 143.7

```
;redcode-nano
;name hymn of the hollow star
;author raptor
;strategy a man may die but not his ideas
;assert CORESIZE==80

spl    #    -4, >     16
mov.i  #    38, <      2
mov    {    -1, {     -2
mov    >    31, {     27
djn.f       -3, <     43
end
```

vs. hymn of the hollow st	Score	Given
Diffraction Limit S5	197.2	97.9
145_13.red	166.9	131.0
Nonlocality	163.4	119.0
128_48.red	161.3	131.7
[RS] Nextratulated Sturvi	150.0	147.9
Cold Plasma	150.0	126.8
Flamewraith	149.3	136.6
b69e6908-a5be0bba-ab4445f	143.0	153.5
Unholy Fire	141.5	147.9
14_12.red	137.3	156.3
[RS] Existephall Apris	135.2	143.7
Pacler Deux	133.8	142.3
032_42.red	133.1	158.5
Quantum Foam	130.3	166.2
Transfer Function	128.9	160.6
Combat Arithmetic	127.5	169.7
8c09fc1a-4799259f-1747246	125.4	173.9
Nonlocality 2	116.9	165.5

raptor – hymn of the hollow star – Execution Trace

```
 0|@####                                                                  | spl.b  #    76 , >    16
 1|!@###          +                                                       | mov.i  #    38 , <     2
 2|@.#-#          +           X                                           | spl.b  #    76 , >    16
 3|!.@-#          +           X                                           | mov.i  {    79 , {    78
 4|-@.-#          +           X                                       X   | mov.i  #    37 , <     2
 5|@..-#          +          XX                                       X   | spl.b  #    75 , >    16
 6|!..@#          +          XX                                       X   | mov.i  >    31 , {    25
 7|!.@.#          +          -X   +                               X   X   | mov.i  {    79 , {    78
 8|-@..#          +          -X   +                               X  XX   | mov.i  #    36 , <     2
 9|@..-#          +         X-X   +                               X  XX   | spl.b  #    74 , >    16
10|!..-@          +         X-X   +                               X  XX   | djn.f  $    77 , <    43
11|!..@.          +         X-X   +          --                   X  XX   | mov.i  >    31 , {    24
12|!.@..          +         --X   +          --                X  X  XX   | mov.i  {    79 , {    78
13|-@...          +         --X   +          --                X  X XXX   | mov.i  #    35 , <     2
14|@.-.-          +        X--X   +          --                X  X XXX   | spl.b  #    73 , >    16
15|!@.-.          +        X--X   +          --                X  X XXX   | mov.i  #    35 , <     2
16|!..-@          +        XX--X  +          --                X  X XXX   | djn.f  $    77 , <    43
17|!..@.          +        XX--X  +       ---                  X  X XXX   | mov.i  >    31 , {    22
18|!.@..          +        -X--X  +       ---             X  X  X  X XXX   | mov.i  {    79 , {    78
19|-@...          +        -X--X  +       ---             X  X  X  X XXXX  | mov.i  #    34 , <     2
20|@.-.-          +       X-X--X  +       ---             X  X  X  X XXXX  | spl.b  #    72 , >    16
21|!.@-.          +       X-X--X  +       ---             X  X  X  X XXXX  | mov.i  {    79 , {    78
22|-@.-.          +       X-X--X  +       ---             X  X  X  X XXXXX | mov.i  #    33 , <     2
23|-..-@          +      XX-X--X  +       ---             X  X  X  X XXXXX | djn.f  $    77 , <    43
24|-..@.          +      XX-X--X  +      ----             X  X  X  X XXXXX | mov.i  >    31 , {    20
25|-.@..          +      -X-X--X  +      ----          X  X  X  X  X XXXXX | mov.i  {    79 , {    78
26|-@...          +      -X-X--X  +      ----          X  X  X  X  X XXXXXX| mov.i  #    32 , <     2
27|@.-.-          +     X-X-X--X  +      ----          X  X  X  X  X XXXXXX| spl.b  #    70 , >    16
28|!..@.          +     X-X-X--X  +      ----          X  X  X  X  X XXXXXX| mov.i  >    31 , {    19
29|!.@..          +     --X-X--X  +      ----       X  X  X  X  X  X XXXXXX| mov.i  {    79 , {    78
30|-@...          +     --X-X--X  +      ----       X  X  X  X  X  X XXXXXXX| mov.i  #    31 , <     2
31|-..-@          +    X--X-X--X  +      ----       X  X  X  X  X  X XXXXXXX| djn.f  $    77 , <    43
32|-..@.          +    X--X-X--X  +     -----       X  X  X  X  X  X XXXXXXX| mov.i  >    31 , {    18
33|-.@..          +    ---X-X--X  +     -----    X  X  X  X  X  X  X XXXXXXX| mov.i  {    79 , {    78
34|-@...          +    ---X-X--X  +     -----    X  X  X  X  X  X  X XXXXXXXX| mov.i  #    30 , <     2
35|@.-.-          +   X---X-X--X  +     -----    X  X  X  X  X  X  X XXXXXXXX| spl.b  #    68 , >    16
36|!..-@          +   X---X-X--X  +     -----    X  X  X  X  X  X  X XXXXXXXX| djn.f  $    77 , <    43
37|!..@.          +   X---X-X--X  +    ------    X  X  X  X  X  X  X XXXXXXXX| mov.i  >    31 , {    17
38|!.@..          +    ----X-X--X  +   ------ X  X  X  X  X  X  X  X XXXXXXXX| mov.i  {    79 , {    78
39|-@...          +    ----X-X--X  +   ------ X  X  X  X  X  X  X  X XXXXXXXXX| mov.i  #    29 , <     2
40|-..-@          +  X----X-X--X  +   ------ X  X  X  X  X  X  X  X XXXXXXXXX| djn.f  $    77 , <    43
```

raptor – shards of the pale moon

NE 155.5, ZDNE 142.9

```
;redcode-nano
;name shards of the pale moon
;author raptor
;strategy a man may die but not his ideas
;assert CORESIZE==80

spl    #    36, >     22
spl    #    27, }     32
mov.i  #   -25, }      1
mov.i  #   -22, }      1
djn.f      -37, {     14
end
```

vs. shards of the pale mo	Score	Given
Diffraction Limit S5	170.4	119.7
Nonlocality	151.4	90.1
[RS] Nextratulated Sturvi	147.9	135.2
Unholy Fire	131.0	109.9
Cold Plasma	131.0	118.3
[RS] Existephall Apris	129.6	119.0
Pacler Deux	127.5	106.3
8c09fc1a-4799259f-1747246	123.2	161.3
Transfer Function	118.3	139.4
b69e6908-a5be0bba-ab4445f	116.9	154.9
145_13.red	116.2	171.1
Flamewraith	113.4	117.6
128_48.red	113.4	162.0
Nonlocality 2	102.1	138.0
032_42.red	100.0	171.8
Quantum Foam	88.7	188.0
14_12.red	86.6	185.9
Combat Arithmetic	73.2	210.6

raptor – shards of the pale moon – Execution Trace

```
 0|@####                                                  | spl.b  #    36 , >    22
 1|!@###              +                                   | spl.b  #    27 , }    32
 2|@!###              +         +                         | spl.b  #    36 , >    22
 3|!!@##              +         +                         | mov.i  #    55 , }     1
 4|!@.+#              +         +                   X     | spl.b  #    27 , }    32
 5|!@.+#              +         +                   X     | spl.b  #    27 , }    32
 6|@!.+#              +         +                   X     | spl.b  #    36 , >    22
 7|!!.@#              +         +                   X     | mov.i  #    59 , }     1
 8|!!@.+              +         +             X     X     | mov.i  #    55 , }     1
 9|!@.++              +         +             X     XX    | spl.b  #    27 , }    32
10|!!@++              +         +             X     XX    | mov.i  #    55 , }     1
11|!@.++              +         +             X     XXX   | spl.b  #    27 , }    32
12|!@.++              +         +             X     XXX   | spl.b  #    27 , }    32
13|@!.++              +         +             X     XXX   | spl.b  #    36 , >    22
14|!!.+@              +         +             X     XXX   | djn.f  $    44 , {    14
15|!!.@.          --  +         +             X     XXX   | mov.i  #    61 , }     1
16|!!@.+          --  +         +             XX    XXX   | mov.i  #    55 , }     1
17|!@.++          --  +         +             XX    XXXX  | spl.b  #    27 , }    32
18|!!.@+          --  +         +             XX    XXXX  | mov.i  #    62 , }     1
19|!!@.+          --  +         +             XXX   XXXX  | mov.i  #    55 , }     1
20|!@.++          --  +         +             XXX   XXXXX | spl.b  #    27 , }    32
21|!!@++          --  +         +             XXX   XXXXX | mov.i  #    55 , }     1
22|!@.++          --  +         +             XXX   XXXXXX| spl.b  #    27 , }    32
23|!@.++          --  +         +             XXX   XXXXXX| spl.b  #    27 , }    32
24|@!.++          --  +         +             XXX   XXXXXX| spl.b  #    36 , >    22
25|!!.++          --  +         +             X0X   XXXXXX| mov.i  #    61 , }     1
26|!!.+@          --  +       X +             X.+   XXXXXX| djn.f  $    46 , {    14
27|!!.@.         ---  +       X +             X.+   XXXXXX| mov.i  #    64 , }     1
28|!!@.+         ---  +       X +             X.+X  XXXXXX| mov.i  #    55 , }     1
29|!@.++         ---  +       X +             X.+X  XXXXXXX| spl.b  #    27 , }    32
30|!!.+@         ---  +       X +             X.+X  XXXXXXX| djn.f  $    47 , {    14
31|!!.@.        ----  +       X +             X.+X  XXXXXXX| mov.i  #    65 , }     1
32|!!@.+        ----  +       X +             X.+XX XXXXXXX| mov.i  #    55 , }     1
33|!@.++        ----  +       X +             X.+XX XXXXXXXX| spl.b  #    27 , }    32
34|!!.@+        ----  +       X +             X.+XX XXXXXXXX| mov.i  #    66 , }     1
35|!!@.+        ----  +       X +             X.+XXXXXXXXXX| mov.i  #    55 , }     1
36|!@.++        ----  +       X +             X.+XXXXXXXXXX| spl.b  #    27 , }    32
37|!!@++        ----  +       X +             X.+XXXXXXXXXX| mov.i  #    55 , }     1
38|!@.++        ----  +       X +             X.+XXXXXXXXXX| spl.b  #    27 , }    32
39|!@.++        ----  +       X +             X.+XXXXXXXXXX| spl.b  #    27 , }    32
40|@!.++        ----  +       X +             X.+XXXXXXXXXX| spl.b  #    36 , >    22
```

Steve Gunnell – Gem Tumour

NE 144.7, ZDNE 144.2

```
;redcode-nano
;name Gem Tumour
;author Steve Gunnell
;strategy Misc 2 mov clear loop
;originalname Clear A gmtu
;assert CORESIZE==80

GO  spl     #75 ,<43
    mov.i   {0  ,>45
    mov.i   >29 ,{-2
    mov.i   {-1 ,{43
    djn.f   -2  ,{49

     end  GO
```

vs. Gem Tumour	Score	Given
Cold Plasma	188.7	95.8
8c09fc1a-4799259f-1747246	170.4	128.2
Diffraction Limit S5	170.4	128.2
145_13.red	166.9	128.9
[RS] Existephall Apris	164.8	112.0
14_12.red	164.8	133.1
Transfer Function	161.3	133.8
032_42.red	159.9	132.4
128_48.red	152.8	144.4
Quantum Foam	145.1	151.4
Combat Arithmetic	141.5	154.2
[RS] Nextratulated Sturvi	137.3	154.2
b69e6908-a5be0bba-ab4445f	135.9	159.2
Flamewraith	134.5	153.5
Unholy Fire	130.3	164.1
Nonlocality	128.9	162.7
Pacler Deux	121.8	164.1
Nonlocality 2	117.6	176.8

Steve Gunnell – Gem Tumour – Execution Trace

```
 0|@####                                                                           | spl.b  #   75 , <   43
 1|!@###                                      -                                    | mov.i  {    0 , >   45
 2|@-###                                      -  X                                 | spl.b  #   75 , <   43
 3|!-@##                                      -  X                                 | mov.i  >   29 , {   78
 4|-@.##                          +           -  X                           X     | mov.i  {   79 , >   45
 5|@..##    X                     +           -  +                           X     | spl.b  #   73 , <   43
 6|!..@#    X                     +           -  +                           X     | mov.i  {   79 , {   43
 7|!.@.#    X                     +        X  -  -                           X     | mov.i  >   28 , {   78
 8|-@..#    X                    ++        X  -  -                         X X     | mov.i  {   79 , >   45
 9|@...#    XX                   ++        X  -  +                         X X     | spl.b  #   71 , <   43
10|!...@    XX                   ++        X  -  +                         X X     | djn.f  $   78 , {   49
11|!..@.    XX                   ++        X  -  +     --                  X X     | mov.i  {   79 , {   43
12|!.@..    XX                   ++       XX  -  -     --                  X X     | mov.i  >   27 , {   78
13|-@...    XX                  +++       XX  -  -     --                X X X     | mov.i  {   79 , >   45
14|@....    XXX                 +++       XX  -  +     --                X X X     | spl.b  #   69 , <   43
15|!.@..    XXX                 +++       XX  -  +     --                X X X     | mov.i  >   27 , {   78
16|-...@    XXX                 +++       XX  -  +     --              X X X X     | djn.f  $   78 , {   49
17|-..@.    XXX                 +++       XX  -  +    ---              X X X X     | mov.i  {   79 , {   43
18|-.@..    XXX                 +++      XXX  -  -    ---              X X X X     | mov.i  >   26 , {   78
19|-@...    XXX                ++++      XXX  -  -    ---             XX X X X     | mov.i  {   79 , >   45
20|@....    XXXX               ++++      XXX  -  +    ---             XX X X X     | spl.b  #   66 , <   43
21|!..@.    XXXX               ++++      XXX  -  +    ---             XX X X X     | mov.i  {   79 , {   43
22|!.@..    XXXX               ++++     XXXX  -  -    ---             XX X X X     | mov.i  >   25 , {   78
23|-...@    XXXX              +++++     XXXX  -  -    ---           X XX X X X     | djn.f  $   78 , {   49
24|-..@.    XXXX              +++++     XXXX  -  -   ----           X XX X X X     | mov.i  {   79 , {   43
25|-.@..    XXXX              +++++    XXXXX  -  -   ----           X XX X X X     | mov.i  >   24 , {   78
26|-@...    XXXX             ++++++    XXXXX  -  -   ----          XX XX X X X     | mov.i  {   79 , >   45
27|@....    XXXXX            ++++++    XXXXX  -  +   ----          XX XX X X X     | spl.b  #   63 , <   43
28|!...@    XXXXX            ++++++    XXXXX  -  +   ----          XX XX X X X     | djn.f  $   78 , {   49
29|!..@.    XXXXX            ++++++    XXXXX  -  +  -----          XX XX X X X     | mov.i  {   79 , {   43
30|!.@..    XXXXX            ++++++   XXXXXX  -  -  -----          XX XX X X X     | mov.i  >   23 , {   78
31|-...@    XXXXX           +++++++   XXXXXX  -  -  -----        X XX XX X X X     | djn.f  $   78 , {   49
32|-..@.    XXXXX           +++++++   XXXXXX  -  - ------        X XX XX X X X     | mov.i  {   79 , {   43
33|-.@..    XXXXX           +++++++  XXXXXXX  -  - ------        X XX XX X X X     | mov.i  >   22 , {   78
34|-@...    XXXXX          ++++++++  XXXXXXX  -  - ------       XX XX XX X X X     | mov.i  {   79 , >   45
35|@....    XXXXXX         ++++++++  XXXXXXX  -  + ------       XX XX XX X X X     | spl.b  #   60 , <   43
36|!.@..    XXXXXX         ++++++++  XXXXXXX  -  + ------       XX XX XX X X X     | mov.i  >   22 , {   78
37|-...@    XXXXXX         ++++++++  XXXXXXX  -  + ------     X XX XX XX X X X     | djn.f  $   78 , {   49
38|-..@.    XXXXXX         ++++++++  XXXXXXX  -  +-------     X XX XX XX X X X     | mov.i  {   79 , {   43
39|-.@..    XXXXXX         ++++++++ XXXXXXXX  -  --------     X XX XX XX X X X     | mov.i  >   21 , {   78
40|-...@    XXXXXX        +++++++++ XXXXXXXX  -  --------    XX XX XX XX X X X     | djn.f  $   78 , {   49
```

Steve Gunnell – Vilifier

NE 138.8, ZDNE 138.0

```
;redcode-nano
;name Vilifier
;author Steve Gunnell
;strategy Evolved from markov chained opcodes
    and random fields
;strategy Form SPL MOV SPL MOV DJN
;originalname Azure nano vyfe
;assert CORESIZE==80

GATE    equ (L00-4)
IMP     equ 37

L00 SPL.F   #0      ,>IMP*2
L01 MOV.I   }-1     ,}0 - (-1)
L02 SPL.F   <54/2   ,<IMP+1
L03 MOV.I   *IMP+1  ,<-3
L04 DJN.F   $-1     ,<0-IMP

    end L00
```

vs. Vilifier	Score	Given
[RS] Nextratulated Sturvi	188.7	102.1
128_48.red	173.2	116.2
Nonlocality	152.8	125.4
Flamewraith	152.8	121.1
14_12.red	151.4	136.6
Quantum Foam	149.3	140.8
032_42.red	145.1	138.7
Pacler Deux	144.4	129.6
Cold Plasma	142.3	110.6
Nonlocality 2	139.4	137.3
Transfer Function	135.9	129.6
[RS] Existephall Apris	132.4	126.1
Combat Arithmetic	131.0	156.3
b69e6908-a5be0bba-ab4445f	129.6	146.5
145_13.red	128.9	156.3
8c09fc1a-4799259f-1747246	121.1	165.5
Unholy Fire	119.0	161.3
Diffraction Limit S5	117.6	174.6

Steve Gunnell – Vilifier – Execution Trace

```
 0|@####                                                  | spl.f  #    0 , >   74
 1|!@###                                            +     | mov.i  }   79 , }    1
 2|@.+##                  X                         +     | spl.f  #    1 , >   74
 3|!.@##                  X                         +     | spl.f  <   28 , <   38
 4|!@.##                  !-          -             +     | mov.i  }   79 , }    1
 5|@.+##                  !X          -             +     | spl.f  #    2 , >   74
 6|!.+@#                  !X          -             +     | mov.i  *   38 , <   77
 7|-.+.#                  @X          -            X+     | spl.f  #    0 , >   74
 8|-.@.#            +     !X          -            X+     | spl.f  <   29 , <   38
 9|-@..#            +     !!-         -            X+     | mov.i  }   79 , }    1
10|@.+.#            +     !!X         -            X+     | spl.f  #    3 , >   73
11|!.+.@            +     !!X         -            ++     | djn.f  $   79 , <   43
12|!.+..            +     !@X         -     --     ++     | mov.i  }   79 , }    1
13|!.+..            +     @.+         -     --   X  ++     | spl.f  #    1 , >   74
14|!.+@.            +     !.+         -     --   X  ++     | mov.i  *   38 , <   77
15|-.+..            +     !@+         -     --   X  X++    | mov.i  }   79 , }    1
16|-.@..            +     +.+         -     --   XX X++    | spl.f  <   30 , <   38
17|-@...            +     +.!-        -     --   XX X++    | mov.i  }   79 , }    1
18|@.+..            +     +.!X        -     --   XX X++    | spl.f  #    4 , >   72
19|!.+@.            +     +.!X        -     --   XX +++    | mov.i  *   38 , <   77
20|-.+..            +     +.@X        -     --   XX X+++   | spl.f  <   31 , <   38
21|-.+..            +     +@.X        -     --   X! - X+++ | mov.i  }   79 , }    1
22|-.+..            +     @.+X        -     --   X!X - X+++ | spl.f  #    3 , >   74
23|-.+.@            +     !.+X        -     --   X!X - X+++ | djn.f  $   79 , <   43
24|-.+..            +     !.@X        -    ---   X!X - X+++ | spl.f  <   32 , <   38
25|-.+@.            +     !..X        -    ---   X!! - X+++ | mov.i  *   38 , <   77
26|-.+..            +     !.@X        -    ---   X!! -XX+++ | spl.f  <   32 , <   38
27|-.@..            +     !..X        -    ---   X!! -XX+++ | spl.f  <   31 , <   38
28|-@...            +     !..!-       -    ---   X!! -XX+++ | mov.i  }   79 , }    1
29|@.+..            +     !..!X       -    ---   X!! -XX+++ | spl.f  #    5 , >   70
30|!.+.@            +     !..!X       -    ---   X!! -+X+++ | djn.f  $   79 , <   43
31|!.+..            +     !..@X       -   ----   X!! -+X+++ | mov.i  *   38 , <   77
32|!.+..            X+    -...X       -   ----   X@! -+X+++ | mov.i  }   79 , }    1
33|!.+..      X     X+    -.@.X       -   ----   +.+- -+X+++ | spl.f  <   32 , <   38
34|!.+..      X     X+    -@..X       -   ----   !.+- -+X+++ | mov.i  }   79 , }    1
35|!.+..      X     X+    @.+.X       -   ----   !.+X -+X+++ | spl.f  #    4 , >   73
36|!.+@.      X     ++    !.+.X       -   ----   !.+X -+X+++ | mov.i  *   38 , <   77
37|-.+..      X     ++    !.+@X       -   ----   !.+X X+X+++ | mov.i  *   38 , <   77
38|-.+..      X    X++    -.+.X       -   ----   !.@X X+X+++ | spl.f  <   32 , <   38
39|-.+.@      !-   -X++   -.+.X       -   ----   !..X X+X+++ | djn.f  $   79 , <   43
40|-.+..      !-   -X++   -.+@X       -  -----   !..X X+X+++ | mov.i  *   38 , <   77
```

S.Fernandes – Ripple in the Equilibrium

NE 149.7, ZDNE 142.7

```
;redcode-nano
;name Ripple in the Equilibrium
;author S.Fernandes
;strategy paper
;assert CORESIZE == 80

pstep   equ     -19
ipos    equ     28
cpos    equ     -ipos
dpos    equ     11

        mov     {22         ,   39
paper   spl     #0          ,   <pstep
        mov     }paper      ,   >paper
        mov     >ipos       ,   <cpos
        djn.f   *pstep-2    ,   {dpos
        end
```

vs. Ripple in the Equilib	Score	Given
Quantum Foam	182.4	102.1
145_13.red	166.2	123.9
[RS] Existephall Apris	160.6	103.5
Nonlocality	157.7	113.4
Flamewraith	152.1	126.8
Nonlocality 2	150.7	123.2
Combat Arithmetic	148.6	142.3
Pacler Deux	145.1	128.2
Cold Plasma	134.5	128.2
Unholy Fire	132.4	143.0
[RS] Nextratulated Sturvi	131.7	157.0
8c09fc1a-4799259f-1747246	129.6	161.3
032_42.red	128.9	158.5
128_48.red	124.6	164.8
14_12.red	123.2	165.5
b69e6908-a5be0bba-ab4445f	118.3	160.6
Transfer Function	107.0	178.9
Diffraction Limit S5	99.3	198.6

S.Fernandes – Ripple in the Equilibrium – Execution Trace

```
 0|@####                                                    | mov.i  {   22 , $   39
 1|.@###              -              X                      | spl.b  #    0 , <   61
 2|.!@##              -              X              -       | mov.i  }   79 , >   79
 3|.@.##              -              X              X       | spl.b  #    1 , <   62
 4|.!.@#              -              X              X-      | mov.i  >   28 , <   52
 5|.!@.#              -       +      X           X-     X-   | mov.i  }   79 , >   79
 6|.@..#              -       +      X           X-     XX   | spl.b  #    2 , <   63
 7|.!..@              -       +      X           X-     XX-  | djn.f  *   59 , {   11
 8|.!.@.        --    -       +      X           X-     XX-  | mov.i  >   28 , <   52
 9|.!@..        --    -       +      X          XX-     XX-  | mov.i  }   79 , >   79
10|.@...        --    -       +      X          XX-     XXX  | spl.b  #    3 , <   64
11|.!...        --    -       +      X          XX-     @XX- | spl.b  #    0 , <   61
12|.!..@        --    -       +      X   -      XX-     !XX- | djn.f  *   59 , {   11
13|.!.@.       ---    -       +      X   -      XX-     !XX- | mov.i  >   28 , <   52
14|.!@..       ---    -       +      X   -     XXX-     !XX- | mov.i  }   79 , >   79
15|.@...       ---    -       +      X   -     XXX-     !XXX | spl.b  #    4 , <   65
16|.!...       ---    -       +      X   -     XXX-     !@XX- | mov.i  }   79 , >   79
17|.!...       ---    -       +      X   X     XXX-     @.XX- | spl.b  #    1 , <   62
18|.!...       ---    -       +      X   X-    XXX-     @.XX- | spl.b  #    1 , <   62
19|.!..@       ---    -       +      X   X-    XXX-     !.XX- | djn.f  *   59 , {   11
20|.!.@.      ----    -       +      X   X-    XXX-     !.XX- | mov.i  >   28 , <   52
21|.!@..      ----    -       +      X   X-   XXXX-     !.XX- | mov.i  }   79 , >   79
22|.@...      ----    -       +      X   X-   XXXX-     !.XXX | spl.b  #    5 , <   66
23|.!...      ----    -       +      X   X-   XXXX-     !.@XX- | mov.i  >   28 , <   52
24|.!...     +---    -       +   X- X   X-   XXXX-     !@.XX- | mov.i  }   79 , >   79
25|.!...     +---    -       +   X- X   XX   XXXX-     @..XX- | spl.b  #    2 , <   63
26|.!...     +---    -       +   X- X   XX-  XXXX-     !@.XX- | mov.i  }   79 , >   79
27|.!...     +---    -       +   X- X   XXX  XXXX-     @..XX- | spl.b  #    3 , <   64
28|.!...     +---    -       +   X- X   XXX- XXXX-     @..XX- | spl.b  #    3 , <   64
29|.!..@     +---    -       +   X- X   XXX- XXXX-     !..XX- | djn.f  *   59 , {   11
30|.!.@.    -+---    -       +   X- X   XXX- XXXX-     !..XX- | mov.i  >   28 , <   52
31|.!@..    -+---    -       +   X- X   XXX- XXXXX-    !..XX- | mov.i  }   79 , >   79
32|.@...    -+---    -       +   X- X   XXX- XXXXX-    !..XXX | spl.b  #    6 , <   67
33|.!...    -+---    -       +   X- X   XXX- XXXXX-    !..@XX- | djn.f  *   59 , {   11
34|.!...    -+---    -       +   X- X   XXX- XXXXX-    !.@.XX-    --  | mov.i  >   28 , <   52
35|.!...    -+---    -       +  XX- X   XXX- XXXXX-    !@..XX-    --  | mov.i  }   79 , >   79
36|.!...    -+---    -       +  XX- X   XXXX XXXXX-    @...XX-    --  | spl.b  #    4 , <   65
37|.!...    -+---    -       +  XX- X   XXXX- XXXXX-    !.@.XX-    --  | mov.i  >   28 , <   52
38|.!...    -+---    -       + XXX- X   XXXX- XXXXX-    !@..XX-    --  | mov.i  }   79 , >   79
39|.!...    -+---    -       + XXX- X   XXXXX XXXXX-    @...XX-    --  | spl.b  #    5 , <   66
40|.!...    -+---    -       + XXX- X   XXXXX- XXXXX-    !@..XX-    --  | mov.i  }   79 , >   79
```

S.Fernandes – Bombus Nashii

NE 148.6, ZDNE 142.8

```
;redcode-nano
;name Bombus Nashii
;author S.Fernandes
;strategy scanner
;assert CORESIZE==80

        org     attack
step    equ     43

loop    add.ab  #step       ,   #45
attack  jmz.f   loop        ,   @loop
        mov.i   bomb        ,   >loop
        djn.f   attack      ,   <74

bomb    mov.i   #4          ,   -1
        end
```

vs. Bombus Nashii	Score	Given
145_13.red	214.1	83.1
Flamewraith	197.9	79.6
Nonlocality 2	193.0	93.7
Pacler Deux	192.3	93.0
Unholy Fire	176.8	104.9
b69e6908-a5be0bba-ab4445f	175.4	122.5
Nonlocality	171.8	110.6
Cold Plasma	161.3	131.7
[RS] Nextratulated Sturvi	161.3	135.9
Diffraction Limit S5	157.7	140.8
[RS] Existephall Apris	149.3	147.2
Quantum Foam	139.4	158.5
128_48.red	138.0	159.2
Transfer Function	133.1	164.8
Combat Arithmetic	133.1	166.9
032_42.red	132.4	166.2
8c09fc1a-4799259f-1747246	109.9	190.1
14_12.red	96.5	200.0

S.Fernandes – Bombus Nashii – Execution Trace

```
 0|#@###                                                  | jmz.f  $    79 , @    79
 1|@.###                                  ?               | add.ab #    43 , #    45
 2|*@###                                  ?               | jmz.f  $    79 , @    79
 3|@.###   ?                              ?               | add.ab #    43 , #     8
 4|*@###   ?                              ?               | jmz.f  $    79 , @    79
 5|@.###   ?                              ?   ?           | add.ab #    43 , #    51
 6|*@###   ?                              ?   ?           | jmz.f  $    79 , @    79
 7|@.###   ?   ?                          ?   ?           | add.ab #    43 , #    14
 8|*@###   ?   ?                          ?   ?           | jmz.f  $    79 , @    79
 9|@.###   ?   ?                          ?   ?   ?       | add.ab #    43 , #    57
10|*@###   ?   ?                          ?   ?   ?       | jmz.f  $    79 , @    79
11|@.###   ?   ?   ?                      ?   ?   ?       | add.ab #    43 , #    20
12|*@###   ?   ?   ?                      ?   ?   ?       | jmz.f  $    79 , @    79
13|@.###   ?   ?   ?                      ?   ?   ?   ?   | add.ab #    43 , #    63
14|*@###   ?   ?   ?                      ?   ?   ?   ?   | jmz.f  $    79 , @    79
15|@.###   ?   ?   ?   ?                  ?   ?   ?   ?   | add.ab #    43 , #    26
16|*@###   ?   ?   ?   ?                  ?   ?   ?   ?   | jmz.f  $    79 , @    79
17|@.###   ?   ?   ?   ?                  ?   ?   ?   ?   ?   | add.ab #    43 , #    69
18|*@###   ?   ?   ?   ?                  ?   ?   ?   ?   ?   | jmz.f  $    79 , @    79
19|@.###   ?   ?   ?   ?   ?              ?   ?   ?   ?   ?   | add.ab #    43 , #    32
20|*@###   ?   ?   ?   ?   ?              ?   ?   ?   ?   ?   | jmz.f  $    79 , @    79
21|@.###   ?   ?   ?   ?   ?              ?   ?   ?   ?   ?   ?   | add.ab #    43 , #    75
22|*@###   ?   ?   ?   ?   ?              ?   ?   ?   ?   ?   ?   | jmz.f  $    79 , @    79
23|@.###   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?   | add.ab #    43 , #    38
24|*@###   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?   | jmz.f  $    79 , @    79
25|*?@##   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?   | mov.i  $     2 , >    78
26|+X.@#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?   | djn.f  $    78 , <    74
27|+@..#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?--  | mov.i  #     4 , $    79
28|X.@.#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?--  | mov.i  $     2 , >    78
29|+..@#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   ?-- X| djn.f  $    78 , <    74
30|+@..#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   --- X| mov.i  #     4 , $    79
31|X.@.#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   --- X| mov.i  $     2 , >    78
32|+..@#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?   --- X| djn.f  $    78 , <    74
33|+@..#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?  ---- X| mov.i  #     4 , $    79
34|X.@.#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?  ---- X| mov.i  $     2 , >    78
35|+..@#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ?  ---- X| djn.f  $    78 , <    74
36|+@..#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ? ----- X| mov.i  #     4 , $    79
37|X.@.#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ? ----- X| mov.i  $     2 , >    78
38|+..@#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ? ----- X| djn.f  $    78 , <    74
39|+@..#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ? ------ X| mov.i  #     4 , $    79
40|X.@.#   ?   ?   ?   ?   ?   ?          ?   ?   ?   ?   ? ------ X| mov.i  $     2 , >    78
```

John Metcalf – Glitch//CORE

NE 163.6, ZDNE 151.0

```
;redcode-nano
;name Glitch//CORE
;author John Metcalf
;strategy paper/clear for the Nano Challenge
;assert CORESIZE==80

        pstep   equ -36

paper   spl     #0,       >-7
        mov     }paper,   }dest
dest    spl     {pstep,   >-27
clr     mov.i   @-20,     {26
        djn.f   clr,      {-16
```

vs. Glitch//CORE	Score	Given
Nonlocality	149.3	126.1
Unholy Fire	145.8	131.0
Flamewraith	144.4	129.6
128_48.red	143.7	137.3
b69e6908-a5be0bba-ab4445f	133.8	144.4
[RS] Existephall Apris	124.6	124.6
[RS] Nextratulated Sturvi	121.1	165.5
Transfer Function	118.3	164.8
Cold Plasma	116.2	128.9
Combat Arithmetic	114.8	167.6
145_13.red	112.0	166.9
Nonlocality 2	109.2	162.0
8c09fc1a-4799259f-1747246	106.3	176.1
032_42.red	105.6	175.4
Pacler Deux	104.2	159.2
Diffraction Limit S5	99.3	183.8
14_12.red	97.2	188.0
Quantum Foam	91.5	195.1

John Metcalf – Glitch//CORE – Execution Trace

```
 0|@####                                                                  | spl.b  #    0 , >   73
 1|!@###                                                                  | mov.i  }   79 , }    1
 2|@.+##                                  X                               | spl.b  #    1 , >   73
 3|!.@##                                  X                               | spl.b  {   45 , >   53
 4|!@.##                                  !-      +                       | mov.i  }   79 , }    1
 5|@.+##                                  !X      +                       | spl.b  #    2 , >   73
 6|!.+@#                                  !X      +                       | mov.i  @   60 , {   26
 7|!.+.#                 X-               @X      +                       | spl.b  #    0 , >   73
 8|!.@.#                 X-       +       !X      +                       | spl.b  {   46 , >   53
 9|!@..#                 X-       +       !!-     +                       | mov.i  }   79 , }    1
10|@.+.#                 X-       +       !!X     +                       | spl.b  #    3 , >   73
11|!.+.@                 X-       +       !!X     +                       | djn.f  $   79 , {   64
12|!.+..                 X-       +       !@X     +          --   +       | mov.i  }   79 , }    1
13|!.+..       X         X-       +       @.+     +          --   +       | spl.b  #    1 , >   73
14|!.+@.       X         X-       +       !.+     +          --   +       | mov.i  @   60 , {   26
15|!.+..       X        XX-       +       !@+     +          --   +       | mov.i  }   79 , }    1
16|!.@..       XX       XX-       +       +.+     +          --   +       | spl.b  {   47 , >   53
17|!@...       XX       XX-       +       +.!-    +          --   +       | mov.i  }   79 , }    1
18|@.+..       XX       XX-       +       +.!X    +          --   +       | spl.b  #    4 , >   73
19|!.+@.       XX       XX-       +       +.!X    +          --   +       | mov.i  @   60 , {   26
20|!.+..       XX      XXX-       +       +.@X    +          --   +       | spl.b  {   48 , >   53
21|!.+..      X!-   +   XXX-       +       +@.X    +          --   +       | mov.i  }   79 , }    1
22|!.+..      X!X   +   XXX-       +       @.+X    +          --   +       | spl.b  #    3 , >   73
23|!.+.@      X!X   +   XXX-       +       !.+X    +          --   +       | djn.f  $   79 , {   64
24|!.+..      X!X   +   XXX-       +       !.@X    +         ---   +       | spl.b  {   49 , >   53
25|!.+@.      X!!-  +   XXX-       +       !..X    +         ---   +       | mov.i  @   60 , {   26
26|!.+..      X!!-  +  XXXX-       +       !.@X    +         ---   +       | spl.b  {   49 , >   53
27|!.@..      X!!-  +  XXXX-       +       !..X    +         ---   +       | spl.b  {   48 , >   53
28|!@...      X!!-  +  XXXX-       +       !..!-   +         ---   +       | mov.i  }   79 , }    1
29|@.+..      X!!-  +  XXXX-       +       !..!X   +         ---   +       | spl.b  #    5 , >   73
30|!.+.@      X!!-  +  XXXX-       +       !..!X   +         ---   +       | djn.f  $   79 , {   64
31|!.+..      X!!-  +  XXXX-       +       !..@X   +        ----   +       | mov.i  @   60 , {   26
32|!.+..      X@!-  +  XXXX-       +       !...X   +        ----  +X-      | mov.i  }   79 , }    1
33|!.+..      +.+-  +  XXXX-       +       !.@.X   +       X----  +X-      | spl.b  {   49 , >   53
34|!.+..      !.+-  +  XXXX-       +       !@..X   +       X----  +X-      | mov.i  }   79 , }    1
35|!.+..      !.+X  +  XXXX-       +       @.+.X   +       X----  +X-      | spl.b  #    4 , >   73
36|!.+@.      !.+X  +  XXXX-       +       !.+.X   +       X----  +X-      | mov.i  @   60 , {   26
37|!.+..      !.+X  + XXXXX-       +       !.+@X   +       X----  +X-      | mov.i  @   60 , {   26
38|!.+..      !.@X  + XXXXX-       +       !.+.X   +       X----  XX-      | spl.b  {   49 , >   53
39|!.+.@      !..X  + XXXXX-       +       !.+.X   +      !X----+ XX-      | djn.f  $   79 , {   64
40|!.+..      !..X  + XXXXX-       +       !.+@X   +      !-----+ XX-      | mov.i  @   60 , {   26
```

John Metcalf – rogue[AI]

NE 160.6, ZDNE 153.3

```
;redcode-nano
;name rogue[AI]
;author John Metcalf
;strategy clear
;assert CORESIZE==80

        dist    equ 23

        spl     #-36,       >13
        mov     {0,         >-33
clear   mov     <dist,      {-2
        mov     {clear,     <-dist
        djn.f   clear,      < -8
```

vs. rogue[AI]	Score	Given
b69e6908-a5be0bba-ab4445f	158.5	131.0
[RS] Nextratulated Sturvi	155.6	140.8
Combat Arithmetic	155.6	138.7
Pacler Deux	146.5	144.4
Transfer Function	143.0	155.6
[RS] Existephall Apris	142.3	135.9
032_42.red	140.8	145.1
8c09fc1a-4799259f-1747246	140.1	154.9
145_13.red	138.7	157.7
Diffraction Limit S5	138.0	157.0
Cold Plasma	131.7	152.8
Quantum Foam	130.3	166.2
Flamewraith	126.8	160.6
Nonlocality 2	121.8	170.4
128_48.red	121.1	176.1
Nonlocality	120.4	171.1
14_12.red	105.6	190.1
Unholy Fire	103.5	190.1

John Metcalf – rogue[AI] – Execution Trace

```
 0|@####                                                                  | spl.b  #    44 , >    13
 1|!@###       +                                                          | mov.i  {     0 , >    47
 2|@-###       +                          X                               | spl.b  #    44 , >    13
 3|!-@##       +                          X                               | mov.i  <    23 , {    78
 4|-@.##       +           -              X    X                          | mov.i  {    79 , >    47
 5|@..##       +           -              X    +          X               | spl.b  #    42 , >    13
 6|!..@#       +           -              X    +          X               | mov.i  {    79 , <    57
 7|!.@.#       +           -              X    +        X-X               | mov.i  <    22 , {    78
 8|-@..#       +          --            X X    +        X-X               | mov.i  {    79 , >    47
 9|@...#       +          --            X X    +       X-XX               | spl.b  #    40 , >    13
10|!...@       +          --            X X    +       X-XX               | djn.f  $    78 , <    72
11|!..@.       +          --            X X    +      X-XX         --     | mov.i  {    79 , <    57
12|!.@..       +          --            X X    +     XX-XX         --     | mov.i  <    21 , {    78
13|-@...       +         ---          X X X    +     XX-XX         --     | mov.i  {    79 , >    47
14|@....       +         ---          X X X    +    XX-XXX         --     | spl.b  #    38 , >    13
15|!.@..       +         ---          X X X    +    XX-XXX         --     | mov.i  <    21 , {    78
16|-...@       +         ---        X X X X    +    XX-XXX         --     | djn.f  $    78 , <    72
17|-..@.       +         ---          X X X    +    XX-XXX        ---     | mov.i  {    79 , <    57
18|-.@..       +         ---          X X X    +   XXX-XXX        ---     | mov.i  <    20 , {    78
19|-@...       +        ----         XX X X    +   XXX-XXX        ---     | mov.i  {    79 , >    47
20|@....       +        ----         XX X X    +   XXX-XXXX       ---     | spl.b  #    35 , >    13
21|!..@.       +        ----         XX X X    +   XXX-XXXX       ---     | mov.i  {    79 , <    57
22|!.@..       +        ----         XX X X    +  XXXX-XXXX       ---     | mov.i  <    19 , {    78
23|-...@       +       -----       X XX X X    +  XXXX-XXXX       ---     | djn.f  $    78 , <    72
24|-..@.       +       -----         X XX X    +  XXXX-XXXX      ----     | mov.i  {    79 , <    57
25|-.@..       +       -----         X XX X    +  XXXXX-XXXX     ----     | mov.i  <    18 , {    78
26|-@...       +      ------        XX XX X    +  XXXXX-XXXX     ----     | mov.i  {    79 , >    47
27|@....       +      ------        XX XX X    +  XXXXX-XXXXX    ----     | spl.b  #    32 , >    13
28|!...@       +      ------        XX XX X    +  XXXXX-XXXXX    ----     | djn.f  $    78 , <    72
29|!..@.       +      ------        XX XX X    +  XXXXX-XXXXX   -----     | mov.i  {    79 , <    57
30|!.@..       +      ------        XX XX X    +  XXXXXX-XXXXX  -----     | mov.i  <    17 , {    78
31|-...@       +     -------      X XX XX X    +  XXXXXX-XXXXX  -----     | djn.f  $    78 , <    72
32|-..@.       +     -------        X XX X    +  XXXXXX-XXXXX  ------     | mov.i  {    79 , <    57
33|-.@..       +     -------        X XX X    +  XXXXXXX-XXXXX ------     | mov.i  <    16 , {    78
34|-@...       +    --------      XX XX X    +  XXXXXXX-XXXXX ------     | mov.i  {    79 , >    47
35|@....       +    --------      XX XX X    +  XXXXXXX-XXXXXX ------    | spl.b  #    29 , >    13
36|!.@..       +    --------        XX XX    +  XXXXXXX-XXXXXX ------    | mov.i  <    16 , {    78
37|-...@       +    --------    X XX XX X    +  XXXXXXX-XXXXXX ------    | djn.f  $    78 , <    72
38|-..@.       +    --------    X XX XX X    +  XXXXXXX-XXXXXX -------   | mov.i  {    79 , <    57
39|-.@..       +    --------    X XX XX X    +  XXXXXXXX-XXXXXX -------  | mov.i  <    15 , {    78
40|-...@       +   ---------  XX XX XX X    +  XXXXXXXX-XXXXXX -------  | djn.f  $    78 , <    72
```

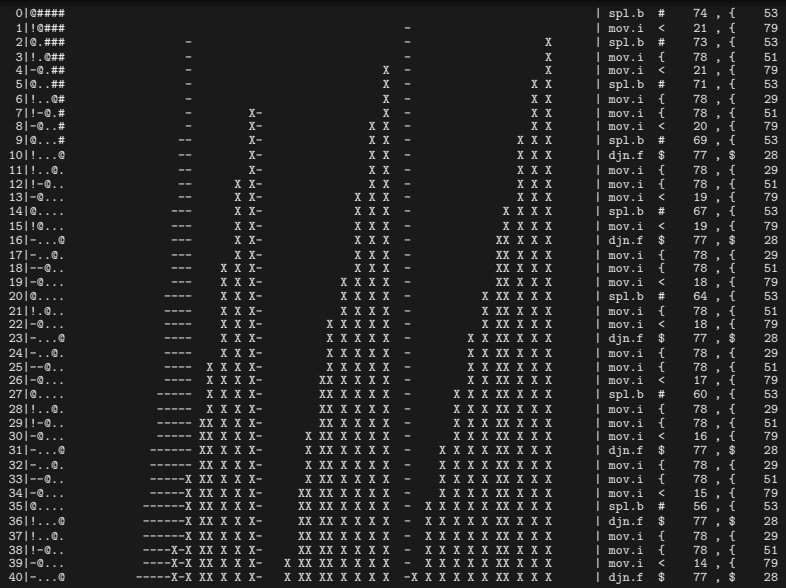
Dave Hillis – rdrc: Smitten Atrocity

NE 148.2, ZDNE 147.4

```
;redcode-nano
;assert CORESIZE == 80
;name rdrc: Smitten Atrocity
;author Dave Hillis
;strategy -   Created using RedRace.c.
;strategy -   An evolving population playing KOTH.
spl.b  #    -6, {   -27
mov.i  <    21, {    -1
mov.i  {    -2, {   -29
mov.i  {    -2, {    29
djn.f  $    -3, $    28
end    0
```

vs. rdrc: Smitten Atrocit	Score	Given
Cold Plasma	169.0	116.2
Combat Arithmetic	168.3	128.2
Transfer Function	160.6	133.1
b69e6908-a5be0bba-ab4445f	159.9	134.5
Diffraction Limit S5	155.6	140.8
8c09fc1a-4799259f-1747246	148.6	146.5
[RS] Existephall Apris	148.6	129.6
032_42.red	148.6	146.5
Nonlocality	147.2	143.0
145_13.red	145.1	151.4
Nonlocality 2	139.4	147.9
Pacler Deux	137.3	145.8
Quantum Foam	136.6	159.9
Flamewraith	135.9	154.9
14_12.red	135.2	162.7
[RS] Nextratulated Sturvi	129.6	167.6
128_48.red	124.6	173.2
Unholy Fire	121.1	169.7

Dave Hillis – rdrc: Smitten Atrocity – Execution Trace



Dave Hillis – rdrc: Sawtooth Grindstone

NE 146.1, ZDNE 144.7

```
;redcode-nano
;assert CORESIZE == 80
;name rdrc: Sawtooth Grindstone
;author Dave Hillis
;strategy -   Created using RedRace.c.
;strategy -   An evolving population playing KOTH.
spl.b  #    -1, <   -25
mov.i  #    38, <     1
mov.i  >     8, {    36
mov.i  >   -22, <   -28
djn.f  $    -3, <    40
end   0
```

vs. rdrc: Sawtooth Grinds	Score	Given
Transfer Function	171.1	118.3
Diffraction Limit S5	157.0	138.0
Quantum Foam	156.3	139.4
032_42.red	155.6	136.6
[RS] Nextratulated Sturvi	147.9	147.9
14_12.red	145.8	147.9
Nonlocality 2	145.1	140.8
145_13.red	144.4	150.7
Unholy Fire	143.7	145.8
Nonlocality	140.8	140.8
128_48.red	140.1	154.9
Flamewraith	138.0	142.3
b69e6908-a5be0bba-ab4445f	138.0	152.8
Cold Plasma	135.2	147.9
Pacler Deux	132.4	149.3
[RS] Existephall Apris	130.3	153.5
8c09fc1a-4799259f-1747246	129.6	161.3
Combat Arithmetic	126.1	168.3

Dave Hillis – rdrc: Sawtooth Grindstone – Execution Trace

```
 0|@####                                                                  | spl.b  #    79 , <    55
 1|!@###                                                 -                | mov.i  #    38 , <     1
 2|@.-##                                  X              -                | spl.b  #    79 , <    55
 3|!.@##                                  X              -                | mov.i  >     8 , {    35
 4|!@.##   +                              -              -              X | mov.i  #    38 , <     1
 5|@.-##   +                             X-              -              X | spl.b  #    79 , <    55
 6|!.-@#   +                             X-              -              X | mov.i  >    58 , <    52
 7|!.@.#   +                             X-           X  -  +           X | mov.i  >     8 , {    34
 8|!@..#   +                             --           X  -  +          XX | mov.i  #    38 , <     1
 9|@.-.#   +                            X--           X  -  +          XX | spl.b  #    79 , <    55
10|!.-.@   +                            X--           X  -  +          XX | djn.f  $    77 , <    40
11|!.-@.   +                            X--     --    X  -  +          XX | mov.i  >    58 , <    52
12|!.@..   +                            X--     --  X X  -  +          XX | mov.i  >     8 , {    33
13|!@...   +                             ---     --  X X  -  +         XXX | mov.i  #    38 , <     1
14|@.-..   +                           X---     --  X X  -  +         XXX | spl.b  #    79 , <    55
15|!@-..   +                           X---     --  X X  -  +         XXX | mov.i  #    38 , <     1
16|!.-.@   +                          XX---     --  X X  -  +         XXX | djn.f  $    77 , <    40
17|!.-@.   +                          XX---     ---   X  -  +         XXX | mov.i  >    58 , <    52
18|!.@..   +                          XX---     ---  X X  -  +         XXX | mov.i  >     8 , {    31
19|!@...   +                          -X---     ---  X X  -  +       X XXX | mov.i  #    38 , <     1
20|@.-..   +                         X-X---     ---  X X  -  +       X XXX | spl.b  #    79 , <    55
21|!.@..   +                         X-X---     ---  X X  -  +       X XXX | mov.i  >     8 , {    30
22|!@...   +                         --X---     ---  X X  -  +      XX XXX | mov.i  #    38 , <     1
23|!.-.@   +                        X--X---     ---  X X  -  +      XX XXX | djn.f  $    77 , <    40
24|!.-@.   +                        X--X---     ----   X  -  +      XX XXX | mov.i  >    58 , <    52
25|!.@..   +                        X--X---     ----  X X  -  +      XX XXX | mov.i  >     8 , {    29
26|!@...   +                         ---X---     ----  X X  -  +     XXX XXX | mov.i  #    38 , <     1
27|@.-..   +                       X---X---     ----  X X  -  +     XXX XXX | spl.b  #    79 , <    55
28|!.-@.   +                       X---X---     ----  X X  -  +     XXX XXX | mov.i  >    58 , <    52
29|!.@..   +                       X---X---     --X-  X X  -  +     XXX XXX | mov.i  >     8 , {    28
30|!@...   +                        ----X---     --X-  X X  -  +    XXXX XXX | mov.i  #    38 , <     1
31|!.-.@   +                      X----X---     --X-  X X  -  +    XXXX XXX | djn.f  $    77 , <    40
32|!.-@.   +                      X----X---     ---X  X X  -  +    XXXX XXX | mov.i  >    58 , <    52
33|!.@..   +                      X----X---     --XX  X X  -  +    XXXX XXX | mov.i  >     8 , {    27
34|!@...   +                       -----X---     --XX  X X  -  +   XXXXX XXX | mov.i  #    38 , <     1
35|@.-..   +                     X-----X---     --XX  X X  -  +   XXXXX XXX | spl.b  #    79 , <    55
36|!.-.@   +                     X-----X---     --XX  X X  -  +   XXXXX XXX | djn.f  $    77 , <    40
37|!.-@.   +                     X-----X---     -XXX  X X  -  +   XXXXX XXX | mov.i  >    58 , <    52
38|!.@..   +                     X-----X---     -X-X  X X  -  +   XXXXX XXX | mov.i  >     8 , {    26
39|!@...   +                      -----X---     -X-X  X X  -  +  XXXXXX XXX | mov.i  #    38 , <     1
40|!.-.@   +                    X------X---     -X-X  X X  -  +  XXXXXX XXX | djn.f  $    77 , <    40
```

Simon Wainwright – Ultimate Balrog

NE 154.5, ZDNE 148.1

```
;redcode-nano
;assert 1
;author Simon Wainwright
;name Ultimate Balrog
;strategy seed YACE soup with the bench warriors
;strategy then run brute force on the output
;origin 14_12.red

mov.i  {     76, $     48
spl.a  #     44, }     71
mov.i  <     19, {     79
mov.i  {     79, <     78
djn.i  $     78, @     78
end 0
```

vs. Ultimate Balrog	Score	Given
Diffraction Limit S5	183.8	109.9
b69e6908-a5be0bba-ab4445f	163.4	129.6
[RS] Nextratulated Sturvi	163.4	135.9
Combat Arithmetic	154.2	143.7
032_42.red	148.6	146.5
128_48.red	144.4	152.8
145_13.red	143.0	155.6
Quantum Foam	142.3	152.8
Nonlocality	140.8	140.8
Cold Plasma	136.6	147.2
Flamewraith	136.6	151.4
Unholy Fire	135.2	152.1
[RS] Existephall Apris	133.1	152.1
14_12.red	126.1	172.5
Transfer Function	124.6	171.1
8c09fc1a-4799259f-1747246	123.2	173.9
Pacler Deux	120.4	164.8
Nonlocality 2	104.2	178.2

Simon Wainwright – Ultimate Balrog – Execution Trace

```
 0|0####                                                  | mov.i  {   76 , $   48
 1|.0###                          X                   -  | spl.a  #   44 , }   71
 2|.!0##                          X                +  -  | mov.i  <   19 , {   79
 3|.0.##              -           X  X             +  -  | spl.a  #   43 , }   71
 4|.!.0#              -           X  X             +  -  | mov.i  {   79 , <   78
 5|.-0.#              -           X  X            X+  -  | mov.i  <   18 , {   79
 6|.0..#             --           XX X            X+  -  | spl.a  #   42 , }   70
 7|.!..0             --           XX X            ++  -  | djn.i  $   78 , 0   78
 8|.-.0.             --           XX X            ++  -  | mov.i  {   79 , <   78
 9|.-0..             --           XX X          X ++  -  | mov.i  <   17 , {   79
10|.0...            ---         X XX X          X ++  -  | spl.a  #   40 , }   68
11|.!0..            ---         X XX X          + ++  -  | mov.i  <   17 , {   79
12|.-..0            ---        XX XX X          + ++  -  | djn.i  $   78 , 0   78
13|.-.0.            ---        XX XX X          + ++  -  | mov.i  {   79 , <   78
14|.-0..            ---        XX XX X        X + ++  -  | mov.i  <   16 , {   79
15|.0...           ----      X XX XX X        X + ++  -  | spl.a  #   37 , }   66
16|.!.0.           ----      X XX XX X         + + ++  -  | mov.i  {   79 , <   78
17|.-0..           ----      X XX XX X       X+ + ++  -  | mov.i  <   15 , {   79
18|.-..0          -----     XX XX XX X       X+ + ++  -  | djn.i  $   78 , 0   78
19|.-.0.          -----     XX XX XX X       X+ + ++  -  | mov.i  {   79 , <   78
20|.-0..          -----     XX XX XX X     X X+ + ++  -  | mov.i  <   14 , {   79
21|.0...         ------   X XX XX XX X     X X+ + ++  -  | spl.a  #   34 , }   63
22|.!..0         ------   X XX XX XX X      + X+ + ++  -  | djn.i  $   78 , 0   78
23|.-.0.         ------   X XX XX XX X      + X+ + ++  -  | mov.i  {   79 , <   78
24|.-0..         ------   X XX XX XX X    X + X+ + ++  -  | mov.i  <   13 , {   79
25|.-..0        -------  X X XX XX XX X    X + X+ + ++  -  | djn.i  $   78 , 0   78
26|.-.0.        -------  X X XX XX XX X    X + X+ + ++  -  | mov.i  {   79 , <   78
27|.-0..        -------  X X XX XX XX X  X X + X+ + ++  -  | mov.i  <   12 , {   79
28|.0...       --------  X X X XX XX XX X  X X + X+ + ++  -  | spl.a  #   30 , }   59
29|.!0..       --------  X X X XX XX XX X    + X + X+ + ++  -  | mov.i  <   12 , {   79
30|.-..0       --------  XX X X XX XX XX X    + X + X+ + ++  -  | djn.i  $   78 , 0   78
31|.-.0.       --------  XX X X XX XX XX X    + X + X+ + ++  -  | mov.i  {   79 , <   78
32|.-0..       --------  XX X X XX XX XX X  X + X + X+ + ++  -  | mov.i  <   11 , {   79
33|.-..0      ---------  X XX X X XX XX XX X  X + X + X+ + ++  -  | djn.i  $   78 , 0   78
34|.-.0.      ---------  X XX X X XX XX XX X    X + X + X+ + ++  -  | mov.i  {   79 , <   78
35|.-0..      ---------  X XX X X XX XX XX X  X X + X + X+ + ++  -  | mov.i  <   10 , {   79
36|.0...     ----------  X XX X X XX XX XX X  X X + X + X+ + ++  -  | spl.a  #   25 , }   55
37|.!.0.     ----------  X XX X X XX XX XX X    + X + X + X+ + ++  -  | mov.i  {   79 , <   78
38|.-0..     ----------  X XX X X XX XX XX X  X+ X + X + X+ + ++  -  | mov.i  <    9 , {   79
39|.-..0    -----------  XX XX X X XX XX XX X  X+ X + X + X+ + ++  -  | djn.i  $   78 , 0   78
40|.-.0.    -----------  XX XX X X XX XX XX X  X+ X + X + X+ + ++  -  | mov.i  {   79 , <   78
```

Simon Wainwright – Voodoo Curse

NE 154.6, ZDNE 148.3

```
;redcode-nano
;assert 1
;author Simon Wainwright
;name Voodoo Curse
;strategy quick scan run through YACE then brute forced
;origin bifurcation.red

seq.i  $     26, $     21
add.x  #     42, #     55
spl.b  #     53, {      1
mov.i  }     35, }     78
djn.f  $     79, }     77
end 0
```

vs. Voodoo Curse	Score	Given
Flamewraith	180.3	108.5
Diffraction Limit S5	174.6	121.8
Nonlocality	174.6	111.3
Cold Plasma	170.4	113.4
Nonlocality 2	168.3	111.3
[RS] Nextratulated Sturvi	166.9	131.0
[RS] Existephall Apris	164.1	115.5
Pacler Deux	157.7	128.2
Unholy Fire	155.6	126.1
Transfer Function	154.2	141.5
Combat Arithmetic	154.2	137.3
Quantum Foam	135.2	158.5
8c09fc1a-4799259f-1747246	133.1	162.7
128_48.red	126.8	162.7
145_13.red	123.2	159.2
032_42.red	102.1	193.0
14_12.red	85.9	208.5
b69e6908-a5be0bba-ab4445f	77.5	216.9

Simon Wainwright – Voodoo Curse – Execution Trace

```
 0|@####                                                    | seq.i  $    26 , $    21
 1|.#@##                ?    ?                              | spl.b  #    53 , {     1
 2|.#!@#                ?    ?                              | mov.i  }    34 , }    78
 3|.+@.#                ?    ?          +     X             | spl.b  #    53 , {     1
 4|.+!-@                ?    ?          +     X             | djn.f  $    79 , }    77
 5|.+!@.                ?    ?          +     X-            | mov.i  }    33 , }    78
 6|.+@..                ?    ?         ++     X-X           | spl.b  #    53 , {     1
 7|.+!@.                ?    ?         ++     X-X           | mov.i  }    32 , }    78
 8|.+!.@                ?    ?        +++     X-XX          | djn.f  $    79 , }    77
 9|.+!@.                ?    ?        +++     X-XX-         | mov.i  }    32 , }    78
10|.+@..                ?    ?        +++     X-XX-X        | spl.b  #    53 , {     1
11|.+!-@                ?    ?        +++     X-XX-X        | djn.f  $    79 , }    77
12|.+!@.                ?    ?        +++     X-XX-X-       | mov.i  }    31 , }    78
13|.+!.@                ?    ?       ++++     X-XX-X-X      | djn.f  $    79 , }    77
14|.+!@.                ?    ?       ++++     X-XX-X-X-     | mov.i  }    31 , }    78
15|.+@..                ?    ?       ++++     X-XX-X-X-X    | spl.b  #    53 , {     1
16|.+!@.                ?    ?       ++++     X-XX-X-X-X    | mov.i  }    30 , }    78
17|.+!.@                ?    ?      +++++     X-XX-X-X-XX   | djn.f  $    79 , }    77
18|.+!@.                ?    ?      +++++     X-XX-X-X-XX-  | mov.i  }    30 , }    78
19|.+!.@                ?    ?      +++++     X-XX-X-X-XX-X | djn.f  $    79 , }    77
20|.+!@.                ?    ?      +++++     X-XX-X-X-XX-X- | mov.i  }    30 , }    78
21|.+@..                ?    ?      +++++     X-XX-X-X-XX-X-X | spl.b  #    53 , {     1
22|.+!-@                ?    ?      +++++     X-XX-X-X-XX-X-X | djn.f  $    79 , }    77
23|.+!@.                ?    ?      +++++     X-XX-X-X-XX-X-X- | mov.i  }    29 , }    78
24|.+!.@                ?    ?     ++++++     X-XX-X-X-XX-X-X-X | djn.f  $    79 , }    77
25|.+!@.                ?    ?     ++++++     X-XX-X-X-XX-X-X-X- | mov.i  }    29 , }    78
26|.+!.@                ?    ?     ++++++     X-XX-X-X-XX-X-X-X-X | djn.f  $    79 , }    77
27|.+!@.                ?    ?     ++++++     X-XX-X-X-XX-X-X-X-X- | mov.i  }    29 , }    78
28|.+@..                ?    ?     ++++++     X-XX-X-X-XX-X-X-X-X-X | spl.b  #    53 , {     1
29|.+!@.                ?    ?     ++++++     X-XX-X-X-XX-X-X-X-X-X | mov.i  }    28 , }    78
30|.+!.@                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX | djn.f  $    79 , }    77
31|.+!@.                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX- | mov.i  }    28 , }    78
32|.+!.@                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X | djn.f  $    79 , }    77
33|.+!@.                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X- | mov.i  }    28 , }    78
34|.+!.@                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X | djn.f  $    79 , }    77
35|.+!@.                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X- | mov.i  }    28 , }    78
36|.+@..                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X-X | spl.b  #    53 , {     1
37|.+!-@                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X-X | djn.f  $    79 , }    77
38|.+!@.                ?    ?    +++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X-X- | mov.i  }    27 , }    78
39|.+!.@                ?    ?   ++++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X-X-X | djn.f  $    79 , }    77
40|.+!@.                ?    ?   ++++++++     X-XX-X-X-XX-X-X-X-X-XX-X-X-X-X- | mov.i  }    27 , }    78
```

bvowk – 9dc398e6-3534c074-784d693e.rc

NE 163.4, ZDNE 152.1

```
;redcode-nano
;name 9dc398e6-3534c074-784d693e.rc
;author bvowk
;assert 1
        ORG     START
START   SPL.BA #    32, >    17
        SPL.AB #    22, >   -24
        MOV.I  #     3, }    38
        SPL.AB $    40, }    12
        MOV.I  >    25, >   -27
```

vs. bvowk_9dc.rc	Score	Given
Cold Plasma	138.0	106.3
145_13.red	138.0	148.6
8c09fc1a-4799259f-1747246	131.7	157.0
Nonlocality	131.7	97.9
[RS] Existephall Apris	125.4	112.7
[RS] Nextratulated Sturvi	122.5	156.3
Diffraction Limit S5	119.7	174.6
Nonlocality 2	116.9	112.7
128_48.red	113.4	166.2
Unholy Fire	112.7	110.6
Pacler Deux	112.0	109.9
Transfer Function	109.2	159.9
b69e6908-a5be0bba-ab4445f	107.7	162.7
Flamewraith	103.5	114.1
Quantum Foam	86.6	192.3
032_42.red	81.0	197.2
Combat Arithmetic	79.6	212.7
14_12.red	78.2	202.8

bvowk – 9dc398e6-3534c074-784d693e.rc – Execution Trace

```
 0|@####                                                    | spl.ba #    32 , >    17
 1|!@###          +                                         | spl.ab #    22 , >    56
 2|@!###          +                        +                | spl.ba #    32 , >    17
 3|!!@##          +                        +                | mov.i  #     3 , }    38
 4|!@.##          +              X         +                | spl.ab #    22 , >    56
 5|!@.##          +              X         +                | spl.ab #    22 , >    56
 6|@!.##          +              X         +                | spl.ba #    32 , >    17
 7|!!.@#          +              X         +                | spl.ab $    40 , }    12
 8|!!@.#        + +              X  !      +                | mov.i  #     3 , }    38
 9|!@..#        + +              +  X      +                | spl.ab #    22 , >    56
10|!!@.#        + +              +  X      +                | mov.i  #     3 , }    38
11|!@..#        + +              +  XX     +                | spl.ab #    22 , >    56
12|!@..#        + +              +  XX     +                | spl.ab #    22 , >    56
13|@!..#        + +              +  XX     +                | spl.ba #    32 , >    17
14|!!..@        + +              +  XX     +                | mov.i  >    25 , >    53
15|!!...        + +        +     +  @X     +     X          | mov.i  #     3 , }    38
16|!+.@.        + +  X     +     +  .X     +     X          | spl.ab $    40 , }    12
17|!+@..        + +  X     +     +  !X     +     X          | mov.i  #     3 , }    38
18|!@...        + +  X     +     +  !XX    +     X          | spl.ab #    23 , >    56
19|!!.@.        + +  X     +     +  !XX    +     X          | spl.ab $    40 , }    12
20|!!@..        + +  X     +     +  !XX    +     X          | mov.i  #     3 , }    38
21|!@...        + +  X     +     +  !XXX   +     X          | spl.ab #    23 , >    56
22|!!@..        + +  X     +     +  !XXX   +     X          | mov.i  #     3 , }    38
23|!@...        + +  X     +     +  !XXXX  +     X          | spl.ab #    23 , >    56
24|!@...        + +  X     +     +  !XXXX  +     X          | spl.ab #    23 , >    56
25|@!...        + +  X     +     +  !XXXX  +     X          | spl.ba #    32 , >    17
26|!!...@       + +  X     +     +  !XXXX  +     X          | dat.f  $     0 , $     0
27|!!....       + +  X     +     +  !@XXX  +     X          | mov.i  #     3 , }    38
28|!!+.@X       + +  X     +     +  !.XXX  +     X          | mov.i  >    25 , >    53
29|!!+..X       + +  X     +     +  @.XXX  +     X    X     | mov.i  #     3 , }    38
30|!++@.X       + +  XX    +     +  ..XXX  +     X    X     | spl.ab $    40 , }    12
31|!+@..X       + +  XX    +     +  !.XXX  +     X    X     | mov.i  #     4 , }    38
32|!@...X       + +  XX    +     +  !.XXXX +     X    X     | spl.ab #    24 , >    56
33|!!..@X       + +  XX    +     +  !.XXXX +     X    X     | mov.i  >    25 , >    53
34|!!...X       + +  XX    +     +  @.XXXX +     X    X X   | mov.i  #     3 , }    38
35|!+.@.X       + +  XXX   +     +  ..XXXX +     X    X X   | spl.ab $    40 , }    12
36|!+@..X       + +  XXX   +     +  !.XXXX +     X    X X   | mov.i  #     4 , }    38
37|!@...X       + +  XXX   +     +  !.XXXXX+     X    X X   | spl.ab #    25 , >    56
38|!!.@.X       + +  XXX   +     +  !.XXXXX+     X    X X   | spl.ab $    40 , }    12
39|!!@..X       + +  XXX   +     +  !.XXXXX+     X    X X   | mov.i  #     4 , }    38
40|!@...X       + +  XXX   +     +  !.XXXXXX+    X    X X   | spl.ab #    25 , >    56
```

bvowk – 6b790897-f7e68574-324ebd10.rc

NE 162.1, ZDNE 150.1

```
;redcode-nano
;name 6b790897-f7e68574-324ebd10.rc
;author bvowk
;assert 1
        ORG     START
START   MOV.I   <    22, $   -22
        SPL.I   #    20, >    37
        SPL.F   $   -39, >    13
        MOV.I   #     2, }    40
        MOV.I   #    15, }    40
```

vs. bvowk_6b7.rc	Score	Given
145_13.red	163.4	127.5
Cold Plasma	157.7	102.8
8c09fc1a-4799259f-1747246	152.8	140.1
[RS] Existephall Apris	140.8	104.9
Nonlocality	140.1	95.8
b69e6908-a5be0bba-ab4445f	133.1	135.2
Unholy Fire	126.8	101.4
[RS] Nextratulated Sturvi	119.7	166.2
Quantum Foam	113.4	174.6
Diffraction Limit S5	112.7	178.2
Nonlocality 2	104.2	127.5
Pacler Deux	103.5	114.1
Flamewraith	95.8	131.7
128_48.red	95.8	180.3
032_42.red	94.4	191.5
Combat Arithmetic	91.5	203.5
Transfer Function	91.5	169.7
14_12.red	79.6	206.3

bvowk – 6b790897-f7e68574-324ebd10.rc – Execution Trace

```
 0|@####                                                  | mov.i  <   22 , $   58
 1|.@###              -                        X          | spl.i  #   20 , >   37
 2|.!@##              -              +         X          | spl.f  $   41 , >   13
 3|.@.##        +     -              +   !     X          | spl.i  #   20 , >   37
 4|.!.@#        +     -              +   !     X          | mov.i  #    2 , }   40
 5|.!..#        +     -              +   @     X          | mov.i  #    2 , }   40
 6|.!@+#X       +     -              +   .     X          | spl.f  $   41 , >   13
 7|.@.+#X       +     -              +   !     X          | spl.i  #   20 , >   37
 8|.!.+@X       +     -              +   !     X          | mov.i  #   15 , }   40
 9|.!.+.X       +     -              +   !@    X          | mov.i  #   15 , }   40
10|.!.@+X       +   X -              +   !.    X          | mov.i  #    3 , }   40
11|.!..+X       +   X -              +   @.X   X          | mov.i  #    3 , }   40
12|.!@++XX      +   X -              +   ..X   X          | spl.f  $   41 , >   13
13|.@.++XX      +   X -              +   !.X   X          | spl.i  #   20 , >   37
14|.!.++@X      +   X -              +   !.X   X          | mov.i  #    2 , }   40
15|.!.++.X      +   X -              +   !.@  X X         | mov.i  #    4 , }   40
16|.!.+@+XX     +   X -              +   !..  X X         | mov.i  #   16 , }   40
17|.!.+.+XX     +   X -              +   !@.  X XX        | mov.i  #   16 , }   40
18|.!.@++XX     +   XX -              +   !..  X XX        | mov.i  #    4 , }   40
19|.!..++XX     +   XX -              +   @..X X XX        | mov.i  #    4 , }   40
20|.!@+++XX     +   XX -              +   ...X X XX        | spl.f  $   41 , >   13
21|.@.+++XX     +   XX -              +   !..X X XX        | spl.i  #   20 , >   37
22|.!.+++@X     +   XX -              +   !..X X XX        | mov.i  #    3 , }   40
23|.!.+++.X     +   XX -              +   !..@ X X XX      | mov.i  #    5 , }   40
24|.!.++@+X X   +   XX -              +   !... X X XX      | mov.i  #    3 , }   40
25|.!.++.+X X   +   XX -              +   !.@. XXX XX      | mov.i  #    5 , }   40
26|.!.+@++XXX   +   XX -              +   !... XXX XX      | mov.i  #   17 , }   40
27|.!.+.++XXX   +   XX -              +   !@.. XXX XXX     | mov.i  #   17 , }   40
28|.!.@+++XXX   +   XXX-              +   !... XXX XXX     | mov.i  #    5 , }   40
29|.!..+++XXX   +   XXX-              +   @...XXXX XXX     | mov.i  #    5 , }   40
30|.!@++++XXX   +   XXX-              +   ....XXXX XXX     | spl.f  $   41 , >   13
31|.@.++++XXX   +   XXX-              +   !...XXXX XXX     | spl.i  #   20 , >   37
32|.!.++++@XX   +   XXX-              +   !...XXXX XXX     | mov.i  #    4 , }   40
33|.!.++++.XX   +   XXX-              +   !...@XXX X XXX   | mov.i  #    6 , }   40
34|.!.+++@+XX X  +   XXX-              +   !....XXX X XXX   | mov.i  #    4 , }   40
35|.!.+++.+XX X  +   XXX-              +   !..@.XXXXX XXX   | mov.i  #    6 , }   40
36|.!.++@++XXXX  +   XXX-              +   !....XXXXX XXX   | mov.i  #    4 , }   40
37|.!.++.++XXXX  +   XXX-              +   !.@..XXXXX XXX   | mov.i  #    6 , }   40
38|.!.+@+++XXXX  +   XXX-              +   !....XXXXX XXX   | mov.i  #   18 , }   40
39|.!.+.+++XXXX  +   XXX-              +   !@...XXXXX XXXX  | mov.i  #   18 , }   40
40|.!.@+++++XXXX  +   XXXX              +   !....XXXXX XXXX  | mov.i  #    6 , }   40
```

Roy van Rijn – Nashville Tennessee

NE 161.2, ZDNE 151.1

```
;redcode-nano
;name Nashville Tennessee
;author Roy van Rijn
;strategy Optimized for NE against benchmark:
    161.16204225352115
;strategy private benchmark: 173.15817984832069
;assert 1

START   spl.f   #0  , >37   ;0
        mov.i   }79 , }1    ;1
        spl.f   <58 , >29   ;2
        mov.i   *55 , {72   ;3
        djn.i   $79 , {47   ;4
end
```

vs. Nashville Tennessee	Score	Given
128_48.red	155.6	136.6
Combat Arithmetic	140.8	145.1
145_13.red	137.3	150.0
b69e6908-a5be0bba-ab4445f	135.2	133.1
[RS] Existephall Apris	135.2	107.7
Quantum Foam	133.1	154.2
Cold Plasma	122.5	126.8
Nonlocality	121.8	151.4
Flamewraith	121.8	153.5
8c09fc1a-4799259f-1747246	121.1	167.6
[RS] Nextratulated Sturvi	120.4	166.9
14_12.red	112.0	175.4
Unholy Fire	110.6	163.4
032_42.red	109.9	179.6
Nonlocality 2	106.3	167.6
Pacler Deux	103.5	166.9
Diffraction Limit S5	95.8	186.6
Transfer Function	93.0	185.9

Roy van Rijn – Nashville Tennessee – Execution Trace

```
 0|@####                                                    | spl.f  #    0 , >   37
 1|!@###                    +                               | mov.i  }   79 , }    1
 2|@.+##                    +                  X            | spl.f  #    1 , >   37
 3|!.@##                    +                  X            | spl.f  <   59 , >   29
 4|!@.##                +   +                  !-           | mov.i  }   79 , }    1
 5|@.+##                +   +                  !X           | spl.f  #    2 , >   37
 6|!.+@#                +   +                  !X           | mov.i  *   55 , {   72
 7|!.+.#                +   +                  @X        X- | spl.f  #    0 , >   37
 8|!.@.#            +   +   +                  !X        X- | spl.f  <   60 , >   29
 9|!@..#            +   +   +                  !!-       X- | mov.i  }   79 , }    1
10|@.+.#            +   +   +                  !!X       X- | spl.f  #    3 , >   37
11|!.+.@            +   +   +                  !!X       X- | djn.i  $   79 , {   47
12|!.+..            +   +   +              --  !@X       X- | mov.i  }   79 , }    1
13|!.+..            +   +   +   X          --  @.+       X- | spl.f  #    1 , >   37
14|!.+@.            +   +   +   X          --  !.+       X- | mov.i  *   55 , {   72
15|!.+..            +   +   +   X          --  !@+      XX- | mov.i  }   79 , }    1
16|!.@..            +   +   +   XX         --  +.+      XX- | spl.f  <   61 , >   29
17|!@...            +   +   +   XX         --  +.!-     XX- | mov.i  }   79 , }    1
18|@.+..            +   +   +   XX         --  +.!X     XX- | spl.f  #    4 , >   37
19|!.+@.            +   +   +   XX         --  +.!X     XX- | mov.i  *   55 , {   72
20|!.+..            +   +   +   XX         --  +.@X    XXX- | spl.f  <   62 , >   29
21|!.+..        +   +   +   +   X!-        --  +@.X    XXX- | mov.i  }   79 , }    1
22|!.+..        +   +   +   +   X!X        --  @.+X    XXX- | spl.f  #    3 , >   37
23|!.+.@        +   +   +   +   X!X        --  !.+X    XXX- | djn.i  $   79 , {   47
24|!.+..        +   +   +   +   X!X      ---   !.@X    XXX- | spl.f  <   63 , >   29
25|!.+@.        +   +   +   +   X!!-     ---   !..X    XXX- | mov.i  *   55 , {   72
26|!.+..        +   +   +   +   X!!-     ---   !.@X   XXXX- | spl.f  <   63 , >   29
27|!.@..        +   +   +   +   X!!-     ---   !..X   XXXX- | spl.f  <   62 , >   29
28|!@...        +   +   +   +   X!!-     ---   !..!-  XXXX- | mov.i  }   79 , }    1
29|@.+..        +   +   +   +   X!!-     ---   !..!X  XXXX- | spl.f  #    5 , >   37
30|!.+.@        +   +   +   +   X!!-     ---   !..!X  XXXX- | djn.i  $   79 , {   47
31|!.+..        +   +   +   +   X!!-    ----   !..@X  XXXX- | mov.i  *   55 , {   72
32|!.+..        +   +   +   +   X@!-    ----  X-  !...X  XXXX- | mov.i  }   79 , }    1
33|!.+..        +   +       X   +   +   +.+-    ----  X-  !.@.X  XXXX- | spl.f  <   63 , >   29
34|!.+..        +   +       X   +   +   !.+-    ----  X-  !@..X  XXXX- | mov.i  }   79 , }    1
35|!.+..        +   +       X   +   +   !.+X    ----  X-  @.+.X  XXXX- | spl.f  #    4 , >   37
36|!.+@.        +   +       X   +   +   !.+X    ----  X-  !.+.X  XXXX- | mov.i  *   55 , {   72
37|!.+..        +   +       X   +   +   !.+X    ----  X-  !.+@X XXXXX- | mov.i  *   55 , {   72
38|!.+..        +   +       X   +   +   !.@X    ---- XX-  !.+.X XXXXX- | spl.f  <   63 , >   29
39|!.+.@        +   +       !-  +   +   !..X    ---- XX-  !.+.X XXX+X- | djn.i  $   79 , {   47
40|!.+..        +   +       !-  +   +   !..X   ----- XX-  !.+@X XXX+X- | mov.i  *   55 , {   72
```

Roy van Rijn – Forbes

NE 168.3, ZDNE 160.9

```
;redcode-nano
;name Forbes
;author Roy van Rijn
;strategy NE against benchmark: 168.3406338028169
;strategy private benchmark: 173.71851300108344
;assert 1

START   spl.b   #42 , >49   ;0
        mov.i   {0  , >45   ;1
        mov.i   <65 , {78   ;2
        mov.i   }79 , <60   ;3
        djn.i   $78 , <59   ;4
END START
```

vs. Forbes	Score	Given
Transfer Function	151.4	140.8
145_13.red	143.7	150.0
Unholy Fire	143.0	153.5
032_42.red	142.3	146.5
Pacler Deux	141.5	145.8
Nonlocality	138.7	153.5
b69e6908-a5be0bba-ab4445f	135.2	154.2
Diffraction Limit S5	130.3	164.1
[RS] Existephall Apris	128.9	150.0
Flamewraith	126.1	162.0
Cold Plasma	125.4	152.8
Nonlocality 2	125.4	163.4
8c09fc1a-4799259f-1747246	118.3	177.5
[RS] Nextratulated Sturvi	112.0	185.9
Combat Arithmetic	109.9	183.8
128_48.red	109.2	187.3
14_12.red	107.7	188.0
Quantum Foam	100.0	195.1

Roy van Rijn – Forbes – Execution Trace

```
 0|@####                                                                           | spl.b  #    42 , >    49
 1|!@###                                                +                          | mov.i  {     0 , >    45
 2|@-###                                             X  +                          | spl.b  #    42 , >    49
 3|!-@##                                             X  +                          | mov.i  <    65 , {    78
 4|-@.##                                X            X  +                 -        | mov.i  {    79 , >    45
 5|@..##          X                     X            +  +                 -        | spl.b  #    40 , >    49
 6|!..@#          X                     X            +  +                 -        | mov.i  }    79 , <    60
 7|!.@.#          X                     X            +  +            X-   -        | mov.i  <    66 , {    78
 8|-@..#          X                   X X            +  +            X-   --       | mov.i  {    79 , >    45
 9|@...#          XX                  X X            +  +            X-   --       | spl.b  #    38 , >    49
10|!...@          XX                  X X            +  +            X-   --       | djn.i  $    78 , <    59
11|!..@.          XX                  X X            +  +           -X-   --       | mov.i  }    79 , <    60
12|!.@..          XX                  X X            +  +          X-X-   --       | mov.i  <    67 , {    78
13|-@...          XX                X X X            +  +          X-X-   ---      | mov.i  {    79 , >    45
14|@....          XXX               X X X            +  +          X-X-   ---      | spl.b  #    36 , >    49
15|!.@..          XXX               X X X            +  +          X-X-   ---      | mov.i  <    67 , {    78
16|-...@          XXX             X X X X            +  +          X-X-   ---      | djn.i  $    78 , <    59
17|-..@.          XXX             X X X X            +  +         -X-X-   ---      | mov.i  }    79 , <    60
18|-.@..          XXX             X X X X            +  +        X-X-X-   ---      | mov.i  <    68 , {    78
19|-@...          XXX            XX X X X            +  +        X-X-X-   ----     | mov.i  {    79 , >    45
20|@....          XXXX           XX X X X            +  +        X-X-X-   ----     | spl.b  #    33 , >    49
21|!..@.          XXXX           XX X X X            +  +        X-X-X-   ----     | mov.i  }    79 , <    60
22|!.@..          XXXX           XX X X X            +  +       XX-X-X-   ----     | mov.i  <    69 , {    78
23|-...@          XXXX         X XX X X X            +  +       XX-X-X-   -----    | djn.i  $    78 , <    59
24|-..@.          XXXX         X XX X X X            +  +      -XX-X-X-   -----    | mov.i  }    79 , <    60
25|-.@..          XXXX         X XX X X X            +  +     X-XX-X-X-   -----    | mov.i  <    70 , {    78
26|-@...          XXXX        XX XX X X X            +  +     X-XX-X-X-   ------   | mov.i  {    79 , >    45
27|@....          XXXXX       XX XX X X X            +  +     X-XX-X-X-   ------   | spl.b  #    30 , >    49
28|!...@          XXXXX       XX XX X X X            +  +     X-XX-X-X-   ------   | djn.i  $    78 , <    59
29|!..@.          XXXXX       XX XX X X X            +  +    -X-XX-X-X-   ------   | mov.i  }    79 , <    60
30|!.@..          XXXXX       XX XX X X X            +  +   X-X-XX-X-X-   ------   | mov.i  <    71 , {    78
31|-...@          XXXXX     X XX XX X X X            +  +   X-X-XX-X-X-   -------  | djn.i  $    78 , <    59
32|-..@.          XXXXX     X XX XX X X X            +  +  -X-X-XX-X-X-   -------  | mov.i  }    79 , <    60
33|-.@..          XXXXX     X XX XX X X X            +  + X-X-X-XX-X-X-   -------  | mov.i  <    72 , {    78
34|-@...          XXXXX    XX XX XX X X X            +  + X-X-X-XX-X-X-   -------- | mov.i  {    79 , >    45
35|@....          XXXXXX   XX XX XX X X X            +  + X-X-X-XX-X-X-   -------- | spl.b  #    27 , >    49
36|!.@..          XXXXXX   XX XX XX X X X            +  + X-X-X-XX-X-X-   -------- | mov.i  <    72 , {    78
37|-...@          XXXXXX X XX XX XX X X X            +  + X-X-X-XX-X-X-   -------- | djn.i  $    78 , <    59
38|-..@.          XXXXXX X XX XX XX X X X            +  +-X-X-X-XX-X-X-   -------- | mov.i  }    79 , <    60
39|-.@..          XXXXXX X XX XX XX X X X            +  X-X-X-X-XX-X-X-   -------- | mov.i  <    73 , {    78
40|-...@          XXXXXXXX XX XX XX X X X            +  X-X-X-X-XX-X-X-   ---------| djn.i  $    78 , <    59
```

inversed – Reptiloid Conspiracy

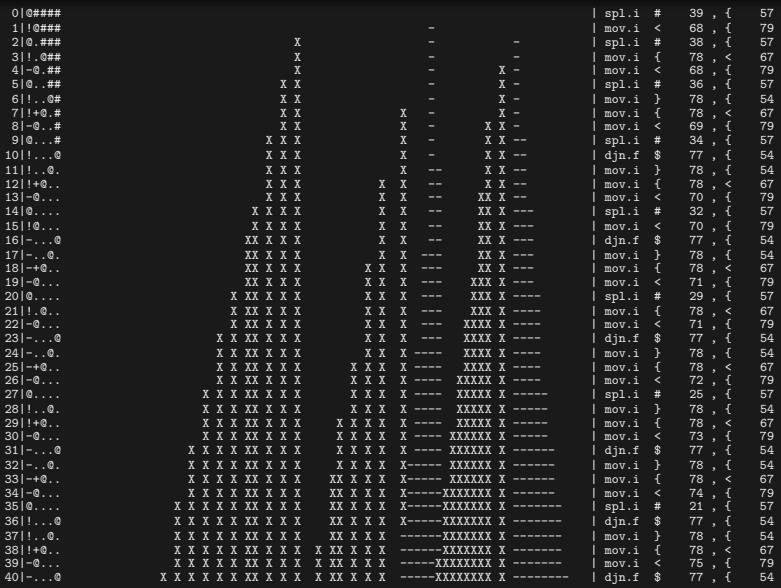
NE 151.2, ZDNE 154.4

```
;redcode-nano
;name Reptiloid Conspiracy
;author inversed
;strategy Clear, evolved with ArmsRace
;date 2025.05.16
;assert CORESIZE == 80

ORG 0
SPL.I  #   39, {   57
MOV.I  <   68, {   -1
MOV.I  {   -2, <   67
MOV.I  }   -2, {   54
DJN.F  $   -3, {   54
```

vs. Reptiloid Conspiracy	Score	Given
Transfer Function	173.9	119.0
032_42.red	154.9	140.1
Nonlocality 2	152.1	131.0
14_12.red	148.6	146.5
Flamewraith	145.8	145.8
[RS] Existephall Apris	142.3	150.7
b69e6908-a5be0bba-ab4445f	139.4	152.1
Combat Arithmetic	138.7	155.6
Diffraction Limit S5	138.0	159.2
Unholy Fire	136.6	155.6
145_13.red	135.9	159.2
Quantum Foam	131.0	162.7
Cold Plasma	130.3	151.4
128_48.red	124.6	169.0
[RS] Nextratulated Sturvi	124.6	173.2
Nonlocality	123.9	168.3
8c09fc1a-4799259f-1747246	116.2	179.6
Pacler Deux	107.7	183.8

inversed – Reptiloid Conspiracy – Execution Trace



inversed – Reptiloid Supremacy

NE 159.0, ZDNE 158.6

```
;redcode-nano
;name Reptiloid Supremacy
;author inversed
;strategy Clear with DAT bomb, evolved with ArmsRace
;date 2025.05.16
;assert CORESIZE == 80

ORG 1
DAT.B  {   32, }   76
SPL.I  #   48, >   49
MOV.I  $   -2, <    1
MOV.I  <    0, {   31
DJN.F  $   -2, {   70
```

vs. Reptiloid Supremacy	Score	Given
[RS] Nextratulated Sturvi	171.8	125.4
145_13.red	166.2	130.3
032_42.red	153.5	136.6
128_48.red	150.7	144.4
Combat Arithmetic	150.7	142.3
Flamewraith	144.4	144.4
Quantum Foam	140.8	157.7
14_12.red	140.1	157.0
Diffraction Limit S5	133.8	165.5
b69e6908-a5be0bba-ab4445f	132.4	164.1
Nonlocality	132.4	164.1
[RS] Existephall Apris	131.0	160.6
8c09fc1a-4799259f-1747246	128.2	168.3
Pacler Deux	124.6	166.9
Unholy Fire	123.9	168.3
Nonlocality 2	118.3	169.0
Cold Plasma	111.3	178.9
Transfer Function	97.9	193.0

inversed – Reptiloid Supremacy – Execution Trace

```
 0|#0###                                                  | spl.i  #   48 , >   49
 1|#!0##                                                  | mov.i  $   78 , <    1
 2|#0.-#                                                  | spl.i  #   48 , >   49
 3|#!.0#                                                  | mov.i  <    0 , {   30
 4|#!0-#                                                  | mov.i  $   78 , <    1
 5|#0.-#                                                  | spl.i  #   48 , >   49
 6|#!.-@                                                  | djn.f  $   78 , {   70
 7|#!.0.                                                  | mov.i  <    0 , {   28
 8|#!0-.                                                  | mov.i  $   78 , <    1
 9|#0.-.                                                  | spl.i  #   48 , >   49
10|#!0-.                                                  | mov.i  $   78 , <    1
11|#!.-@                                                  | djn.f  $   78 , {   70
12|#!.0.                                                  | mov.i  <    0 , {   25
13|#!0-.                                                  | mov.i  $   78 , <    1
14|#0.-.                                                  | spl.i  #   48 , >   49
15|#!.0.                                                  | mov.i  <    0 , {   23
16|#!0-.                                                  | mov.i  $   78 , <    1
17|#!.-@                                                  | djn.f  $   78 , {   70
18|#!.0.                                                  | mov.i  <    0 , {   21
19|#!0-.                                                  | mov.i  $   78 , <    1
20|#0.-.                                                  | spl.i  #   48 , >   49
21|#!.-@                                                  | djn.f  $   78 , {   70
22|#!.0.                                                  | mov.i  <    0 , {   19
23|#!0-.                                                  | mov.i  $   78 , <    1
24|#!.-@                                                  | djn.f  $   78 , {   70
25|#!.0.                                                  | mov.i  <    0 , {   17
26|#!0-.                                                  | mov.i  $   78 , <    1
27|#0.-.                                                  | spl.i  #   48 , >   49
28|#!0-.                                                  | mov.i  $   78 , <    1
29|#!.-@                                                  | djn.f  $   78 , {   70
30|#!.0.                                                  | mov.i  <    0 , {   14
31|#!0-.                                                  | mov.i  $   78 , <    1
32|#!.-@                                                  | djn.f  $   78 , {   70
33|#!.0.                                                  | mov.i  <    0 , {   12
34|#!0-.                                                  | mov.i  $   78 , <    1
35|#0.-.                                                  | spl.i  #   48 , >   49
36|#!.0.                                                  | mov.i  <    0 , {   10
37|#!0-.                                                  | mov.i  $   78 , <    1
38|#!.-@                                                  | djn.f  $   78 , {   70
39|#!.0.                                                  | mov.i  <    0 , {    8
40|#!0-.                                                  | mov.i  $   78 , <    1
```

Qualification Round Results

Warrior	Author	Strategy	NE	ZDNE
Forbes	Roy van Rijn	Clear	168.3	160.9
Glitch//CORE	John Metcalf	Replicator	163.6	151.0
9dc398e6-3534c074-784d693e.rc	bvowk	Clear / imp	163.4	152.1
6b790897-f7e68574-324ebd10.rc	bvowk	Clear / imp	162.1	150.1
Nashville Tennessee	Roy van Rijn	Replicator	161.2	151.1
rogue[AI]	John Metcalf	Clear	160.6	153.3
gazette	lain	Replicator	159.7	149.0
Reptiloid Supremacy	inversed	Clear	159.0	158.6
shards of the pale moon	raptor	Clear / imp	155.5	142.9
Voodoo Curse	Simon Wainwright	Quickscanner	154.6	148.3
Ultimate Balrog	Simon Wainwright	Clear	154.5	148.1
Karlach	koorogi	Clear / imp	154.0	147.6
hymn of the hollow star	raptor	Clear	152.2	143.7
Reptiloid Conspiracy	inversed	Clear	151.2	154.4

Qualification Round Results

Warrior	Author	Strategy	NE	ZDNE
conduit	Iain	Clear	150.9	138.8
Ripple in the Equilibrium	S.Fernandes	Replicator	149.7	142.7
Bombus Nashii	S.Fernandes	Scanner	148.6	142.8
rdrc: Smitten Atrocity	Dave Hillis	Clear	148.2	147.4
rdrc: Sawtooth Grindstone	Dave Hillis	Clear	146.1	144.7
Gem Tumour	Steve Gunnell	Clear	144.7	144.2
Vilifier	Steve Gunnell	Replicator	138.8	138.0
21_5	NDusN	Clear	136.4	136.6
Eventuality Of Goats	Telkkar	Clear / imp	131.7	125.9
Discreet Foghorn	Telkkar	Clear	120.4	113.4
Astarion	koorogi	Clear / imp	106.7	104.0
Evolvernano173038	Drugganator	Clear	107.0	99.2
Evolvernano151282	Drugganator	Clear	105.9	98.1

Final Round Results

Rank	Prob	Score	Name	Author
1	18.40	142.25	**Reptiloid Supremacy**	inversed
2	15.80	142.25	**Reptiloid Conspiracy**	inversed
3	10.95	142.25	14_12.red	yabevolver
4	9.52	142.25	path of the mountain hare	John Metcalf
5	7.75	142.25	[RS] Existephall Apris	inversed
6	5.71	142.25	145_13.red	yabevolver
7	5.44	142.25	**Smitten Atrocity**	Dave Hillis
8	4.18	142.25	Creamed Corn	Terry Newton
9	4.03	142.25	032_42.red	yabevolver
10	3.88	142.25	rumpelstiltskin	gnik
11	3.76	142.25	Another MEVO Thing	Terry Newton
12	2.99	142.25	9dc398e6-3534c074-784d693e	bvowk
13	2.72	142.25	NanoCracker	Terry Newton
14	2.60	142.25	Bombus Nashii	S.Fernandes
15	1.05	142.25	Karlach	koorogi

Final Round Results

Rank	Prob	Score	Name	Author
16	0.61	142.25	Red Moon	Fluffy
17	0.40	142.25	Diffraction Limit S5	inversed
18	0.21	142.25	Black Sun II	Fluffy
27	0	141.16	Ultimate Balrog	Simon Wainwright
38	0	140.23	Glitch//CORE	John Metcalf
45	0	138.82	gazette	Iain
46	0	138.82	Forbes	Roy van Rijn
47	0	138.75	Sawtooth Grindstone	Dave Hillis
51	0	138.54	Ripple in the Equilibrium	S.Fernandes
73	0	136.88	Voodoo Curse	Simon Wainwright
75	0	136.87	hymn of the hollow star	raptor
91	0	135.89	Nashville Tennessee	Roy van Rijn
99	0	135.52	shards of the pale moon	raptor
112	0	134.50	6b790897-f7e68574-324ebd10	bvowk
122	0	133.75	rogue[AI]	John Metcalf
181	0	129.17	conduit	Iain