

# Computer Analysis of the UFO Puzzle

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## Figure 1

-12-- : Board (Sample)  
-X--- :  
----- : Solutions (3 Moves, 6 Steps) ... 1  
---3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 27

X-DRU 1-DR X-D

## Figure 2

1---- : Board (1a)  
--X-- :  
----- : Solutions (1 Move, 1 Step) ..... 1  
--2- : Other solutions (1 Move) ..... 0  
----- : Positions evaluated ..... 1

X-D - Not Sig (1)

----- : Board (1b)  
--X-- :  
----- : Solutions (1 Move, 1 Step) ..... 1  
--1- : Other solutions (1 Move) ..... 0  
----- : Positions evaluated ..... 1

X-D

1-2-3 : Board (2a)  
-X--- :  
----- : Solutions (4 Moves, 6 Steps) ... 2  
---4 : Other solutions (4 Moves) ..... 2  
--5-- : Positions evaluated ..... 1,465

2-D 1-R 4-LU X-RD  
3-L 2-D 4-LU X-RD - Not Sig (1)

--1-2 : Board (2b)  
-X--- :  
----- : Solutions (4 Moves, 6 Steps) ... 1  
---3 : Other solutions (4 Moves) ..... 0  
-4-- : Positions evaluated ..... 85

2-L 1-D 3-LU X-RD

## Figure 3 - Problem No. 1

Configurations ..... 20  
Configurations with solutions ..... 16  
    With all pieces significant ..... 16  
    With insignificant pieces ..... 0

Most moves for minimum solution ..... 4  
Most steps for minimum solution ..... 9  
Most solutions ..... 2

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 2     | 6         | 4        | 8   |
| 3     | 8         | 5        | 9   |
| 4     | 2         | 5        | 5   |

1X2-- : Problem No. 1  
----- :  
----- : Solutions (3 Moves, 7 Steps) ... 2  
---3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 45

X-DRU 1-RDR X-D

X-DRU 2-LDR X-D

1-2X- : Problem No. 1  
----- :  
----- : Solutions (4 Moves, 5 Steps) ... 1  
---3- : Other solutions (4 Moves) ..... 1  
-4--- : Positions evaluated ..... 77

2-L X-L 2-DR X-D

1-2-X : Problem No. 1  
----- :  
----- : Solutions (4 Moves, 5 Steps) ... 1  
---3- : Other solutions (4 Moves) ..... 1  
-4--- : Positions evaluated ..... 179

2-L X-L 2-DR X-D

1-2-- : Problem No. 1  
X---- :  
----- : Solutions (2 Moves, 8 Steps) ... 1  
---3- : Other solutions (2 Moves) ..... 0  
-4--- : Positions evaluated ..... 15

1-RDRU X-RDRU

1-2-- : Problem No. 1  
-X--- :  
----- : Solutions (3 Moves, 7 Steps) ... 2  
---3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 61

X-DRU 1-RDR X-D

X-DRU 2-LDR X-D

1-2-- : Problem No. 1  
--X-- :  
----- : Solutions (2 Moves, 4 Steps) ... 2  
---3- : Other solutions (2 Moves) ..... 0  
-4--- : Positions evaluated ..... 15

1-RDR X-D

2-LDR X-D

1-2-- : Problem No. 1  
---X- :  
----- : Solutions ..... None  
---3- :  
-4--- : Positions evaluated ..... 55

1-2-- : Problem No. 1  
---X- :  
----- : Solutions ..... None  
---3- :  
-4--- : Positions evaluated ..... 21

1-2-- : Problem No. 1

X---- : Solutions (3 Moves, 9 Steps) ... 1  
---3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 27

X-U 1-RDRU X-RDRU

1-2-- : Problem No. 1  
----- :  
-X--- : Solutions (3 Moves, 7 Steps) ... 2  
---3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 118

X-DRU 1-RDR X-D

X-DRU 2-LDR X-D

1-2-- : Problem No. 1  
----- :  
---X- : Solutions ..... None  
---3- :  
-4--- : Positions evaluated ..... 9

1-2-- : Problem No. 1  
----- :  
---X- : Solutions ..... None  
---3- :  
-4--- : Positions evaluated ..... 15

1-2-- : Problem No. 1

X---- : Solutions (2 Moves, 6 Steps) ... 1  
X-3- : Other solutions (2 Moves) ..... 0  
-4--- : Positions evaluated ..... 61

1-RDRU X-RU

1-2-- : Problem No. 1  
----- :  
----- : Solutions (3 Moves, 6 Steps) ... 2  
-X-3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 66

X-RU 1-RDR X-D

X-RU 2-LDR X-D

1-2-- : Problem No. 1  
----- :  
----- : Solutions (3 Moves, 5 Steps) ... 2  
--X3- : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 35

X-U 1-RDR X-D

X-U 2-LDR X-D

1-2-- : Problem No. 1  
----- :  
----- : Solutions (3 Moves, 6 Steps) ... 1  
---3X : Other solutions (3 Moves) ..... 0  
-4--- : Positions evaluated ..... 13

1-RD 3-LU X-LU

1-2-- : Problem No. 1  
----- :  
----- : Solutions (3 Moves, 9 Steps) ... 1  
---3- : Other solutions (3 Moves) ..... 0  
X4--- : Positions evaluated ..... 19

X-U 1-RDRU X-RDRU

1-2-- : Problem No. 1  
----- :  
----- : Solutions (2 Moves, 5 Steps) ... 1  
---3- : Other solutions (2 Moves) ..... 0  
-4X-- : Positions evaluated ..... 30

1-RDRU X-U

```

1-2-- : Problem No. 1
-----
----- : Solutions (2 Moves, 6 Steps) ... 1
---3- : Other solutions (2 Moves) ..... 0
-4-X- : Positions evaluated ..... 51

```

1-RDRU X-LU

```

1-2-- : Problem No. 1
-----
----- : Solutions (2 Moves, 6 Steps) ... 1
---3- : Other solutions (2 Moves) ..... 0
-4--X : Positions evaluated ..... 51

```

1-RDRU X-LU

### Figure 3 - Problem Nos. 2 and 3

```

Configurations ..... 38
Configurations with solutions ..... 38
  With all UFOs significant ..... 30
  With insignificant UFOs ..... 8

```

```

Most moves for minimum solution ..... 6
Most steps for minimum solution ..... 10
Most solutions ..... 9

```

| Moves | Count.... | Steps...<br>Min Max |
|-------|-----------|---------------------|
| 3     | 11        | 5 8                 |
| 4     | 16        | 5 10                |
| 5     | 9         | 6 9                 |
| 6     | 2         | 9 9                 |

```

12X-3 : Problem No. 2
-----
----- : Solutions (3 Moves, 5 Steps) ... 1
----- : Other solutions (3 Moves) ..... 0
4--5- : Positions evaluated ..... 1,692

```

3-LD 1-DR X-D - Not Sig (2)

```

12-X3 : Problem No. 2
-----
----- : Solutions (4 Moves, 6 Steps) ... 1
----- : Other solutions (4 Moves) ..... 0
4--5- : Positions evaluated ..... 1,381

```

X-L 3-LD 1-DR X-D

```

12--3 : Problem No. 2
X---- :
----- : Solutions (5 Moves, 7 Steps) ... 4
----- : Other solutions (5 Moves) ..... 0
4--5- : Positions evaluated ..... 3,208

```

```

2-R 4-R 1-RD 5-U X-RD
2-R 4-R 5-U 1-RD X-RD
4-R 2-R 1-RD 5-U X-RD
4-R 2-R 5-U 1-RD X-RD

```

```

12--3 : Problem No. 2
-X--- :
----- : Solutions (5 Moves, 7 Steps) ... 4
----- : Other solutions (5 Moves) ..... 0
4--5- : Positions evaluated ..... 698

```

```

2-R 4-R 1-RD 5-U X-RD
2-R 4-R 5-U 1-RD X-RD
4-R 2-R 1-RD 5-U X-RD
4-R 2-R 5-U 1-RD X-RD

```

```

12--3 : Problem No. 2
--X-- :
----- : Solutions (3 Moves, 5 Steps) ... 1
----- : Other solutions (3 Moves) ..... 0
4--5- : Positions evaluated ..... 208

```

2-RD 1-DR X-D

```

12--3 : Problem No. 2
--X- :
----- : Solutions (5 Moves, 8 Steps) ... 1
----- : Other solutions (5 Moves) ..... 9
4--5- : Positions evaluated ..... 1,624

```

1-D 4-R 3-LD 1-RU X-LD

```

12--3 : Problem No. 2
---X :
----- : Solutions (5 Moves, 8 Steps) ... 1
----- : Other solutions (5 Moves) ..... 2
4--5- : Positions evaluated ..... 461

```

1-D 4-R 3-LD 1-RU X-LD

```

12--3 : Problem No. 2
-----
X---- : Solutions (3 Moves, 5 Steps) ... 1
----- : Other solutions (3 Moves) ..... 0
4--5- : Positions evaluated ..... 3,569

```

2-RD 1-RD X-R - Not Sig (4)

```

12--3 : Problem No. 2
-----
-X--- : Solutions (3 Moves, 5 Steps) ... 1
----- : Other solutions (3 Moves) ..... 0
4--5- : Positions evaluated ..... 1,055

```

2-RD 1-RD X-R - Not Sig (4)

```

12--3 : Problem No. 2
-----
---X- : Solutions (4 Moves, 5 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
4--5- : Positions evaluated ..... 1,996

```

```

1-D 5-UL 2-D X-L - Not Sig (3)
5-L 2-D 3-LD X-L

```

```

12--3 : Problem No. 2
-----
---X- : Solutions (4 Moves, 5 Steps) ... 1
----- : Other solutions (4 Moves) ..... 0
4--5- : Positions evaluated ..... 1,824

```

5-L 2-D 3-LD X-L

```

12--3 : Problem No. 2
-----
----- : Solutions (5 Moves, 7 Steps) ... 2
X---- : Other solutions (5 Moves) ..... 0
4--5- : Positions evaluated ..... 3,111

```

2-R 1-R 2-D 4-RU X-RU

2-R 1-R 4-RU 2-D X-RU

```

12--3 : Problem No. 2
-----
----- : Solutions (5 Moves, 7 Steps) ... 2
-X--- : Other solutions (5 Moves) ..... 2
4--5- : Positions evaluated ..... 1,726

```

2-R 1-R 2-D 4-RU X-RU

2-R 1-R 4-RU 2-D X-RU

```

12--3 : Problem No. 2
-----
----- : Solutions (4 Moves, 5 Steps) ... 1
--X-- : Other solutions (4 Moves) ..... 1
4--5- : Positions evaluated ..... 795

```

2-R 5-U 4-UR X-U

```

12--3 : Problem No. 2
-----
----- : Solutions (4 Moves, 8 Steps) ... 6
---X- : Other solutions (4 Moves) ..... 0
4--5- : Positions evaluated ..... 726

```

1-DR 5-LU 2-R X-ULD

1-D 5-LU 2-RD X-LUR

5-LU 1-DR 2-R X-ULD

5-LU 1-D 2-RD X-LUR

5-LU 2-RD 1-D X-LUR

5-LU 2-R 1-DR X-ULD

```

12--3 : Problem No. 2
-----
----- : Solutions (6 Moves, 9 Steps) ... 9
---X- : Other solutions (6 Moves) ..... 6
4--5- : Positions evaluated ..... 4,394

```

X-U 1-D 4-R 3-LD 1-RU X-LD

1-DR 3-L 5-L 2-D 1-LU X-LU

1-DR 5-L 3-L 2-D 1-LU X-LU

1-D X-U 4-R 3-LD 1-RU X-LD

1-D 4-R X-U 3-LD 1-RU X-LD

3-L 1-DR 5-L 2-D 1-LU X-LU

3-L 5-L 1-DR 2-D 1-LU X-LU

5-L 1-DR 3-L 2-D 1-LU X-LU

5-L 3-L 1-DR 2-D 1-LU X-LU

```

12--3 : Problem No. 2
-----
----- : Solutions (5 Moves, 6 Steps) ... 2
----- : Other solutions (5 Moves) ..... 1
4X-5- : Positions evaluated ..... 3,214

```

X-R 2-R 5-U 4-UR X-U

2-R X-R 5-U 4-UR X-U

```

12--3 : Problem No. 2
-----
----- : Solutions (4 Moves, 5 Steps) ... 1
----- : Other solutions (4 Moves) ..... 1
4-X5- : Positions evaluated ..... 3,073

```

2-R 5-U 4-UR X-U

```

12--3 : Problem No. 2
-----
----- : Solutions (6 Moves, 9 Steps) ... 3
----- : Other solutions (6 Moves) ..... 7
4--5X : Positions evaluated ..... 4,725

```

X-U 1-D 4-R 3-LD 1-RU X-LD

1-D X-U 4-R 3-LD 1-RU X-LD

1-D 4-R X-U 3-LD 1-RU X-LD

```

1X2-- : Problem No. 3
-----
---3 : Solutions (3 Moves, 6 Steps) ... 3
4--- : Other solutions (3 Moves) ..... 0
---5 : Positions evaluated ..... 107

```

1-DR 3-DL X-DR - Not Sig (2)

1-DR 5-UL X-DR - Not Sig (2)

5-UL 1-DR X-DR - Not Sig (2)

```

1-2X- : Problem No. 3
-----
---3 : Solutions (3 Moves, 8 Steps) ... 1
4--- : Other solutions (3 Moves) ..... 0
---5 : Positions evaluated ..... 1,086

```

5-UL 2-LDR X-LDR

1-2-X : Problem No. 3

```

-----
---3 : Solutions (3 Moves, 8 Steps) ... 1
4--- : Other solutions (3 Moves) ..... 0
---5 : Positions evaluated ..... 3,887

```

5-UL 2-LDR X-LDR

```

1-2-- : Problem No. 3
X---- :
---3 : Solutions (3 Moves, 7 Steps) ... 2
4--- : Other solutions (3 Moves) ..... 0
---5 : Positions evaluated ..... 1,007

```

5-UL 1-RDR X-DR

5-UL 2-LDR X-DR

```

1-2-- : Problem No. 3
--X--- :
----3 : Solutions (3 Moves, 6 Steps) ... 3
4---- : Other solutions (3 Moves) ..... 0
----5 : Positions evaluated ..... 244

```

```

1-DR 3-DL X-DR - Not Sig (2)
1-DR 5-UL X-DR - Not Sig (2)
5-UL 1-DR X-DR - Not Sig (2)

```

```

-----
1-2-- : Problem No. 3
--X--- :
----3 : Solutions (4 Moves, 9 Steps) ... 3
4---- : Other solutions (4 Moves) ..... 0
----5 : Positions evaluated ..... 446

```

```

5-UL 2-LDR 4-U X-LDR
5-UL 4-U 1-RDR X-LDR
5-UL 4-U 2-LDR X-LDR

```

```

-----
1-2-- : Problem No. 3
--X--- :
----3 : Solutions (4 Moves, 9 Steps) ... 3
4---- : Other solutions (4 Moves) ..... 0
----5 : Positions evaluated ..... 659

```

```

5-UL 2-LDR 4-U X-LDR
5-UL 4-U 1-RDR X-LDR
5-UL 4-U 2-LDR X-LDR

```

```

-----
1-2-- : Problem No. 3
--X--- :
----3 : Solutions (4 Moves, 5 Steps) ... 2
4---- : Other solutions (4 Moves) ..... 4
----5 : Positions evaluated ..... 1,125

```

```

1-D 5-U 3-L X-DL - Not Sig (2)
5-U 1-D 3-L X-DL - Not Sig (2)

```

```

-----
1-2-- : Problem No. 3
--X--- :
----3 : Solutions (3 Moves, 6 Steps) ... 2
4---- : Other solutions (3 Moves) ..... 0
----5 : Positions evaluated ..... 1,043

```

```

5-UL 1-RDR X-R
5-UL 2-LDR X-R

```

```

-----
1-2-- : Problem No. 3
--X--- :
----3 : Solutions (4 Moves, 6 Steps) ... 6
4---- : Other solutions (4 Moves) ..... 4
----5 : Positions evaluated ..... 1,434

```

```

X-R 3-DL 1-RD X-L
X-R 3-DL 2-LD X-L
X-R 5-UL 1-RD X-L
X-R 5-UL 2-LD X-L
5-UL X-R 1-RD X-L
5-UL X-R 2-LD X-L

```

```

-----
1-2-- : Problem No. 3
--X3- : Solutions (3 Moves, 5 Steps) ... 4
4---- : Other solutions (3 Moves) ..... 0
----5 : Positions evaluated ..... 306

```

```

3-DL 1-RD X-L
3-DL 2-LD X-L
5-UL 1-RD X-L
5-UL 2-LD X-L

```

```

-----
1-2-- : Problem No. 3
--X3- : Solutions (4 Moves, 10 Steps) ... 3
4X--- : Other solutions (4 Moves) ..... 1
----5 : Positions evaluated ..... 2,094

```

```

4-U 1-RDR 3-DLUL X-UR
4-U 1-RDR 5-ULUL X-UR
5-ULU 2-LDR 4-UR X-UR

```

```

-----
1-2-- : Problem No. 3
--X3- : Solutions (4 Moves, 5 Steps) ... 4
4-X-- : Other solutions (4 Moves) ..... 1
----5 : Positions evaluated ..... 8,046

```

```

3-DL X-U 4-R X-D - Not Sig (1)
4-R X-U 3-DL X-D - Not Sig (1)
4-R X-U 5-UL X-D - Not Sig (1)
5-UL X-U 4-R X-D - Not Sig (1)

```

```

-----
1-2-- : Problem No. 3
--X3- : Solutions (5 Moves, 9 Steps) ... 5
4-X-- : Other solutions (5 Moves) ..... 4
----5 : Positions evaluated ..... 3,336

```

```

2-L X-LU 1-DR 3-DL X-DR
2-L X-LU 1-DR 5-UL X-DR
2-L X-LU 5-UL 1-DR X-DR
2-L 1-DR X-LU 3-DL X-DR
2-L 1-DR X-LU 5-UL X-DR

```

```

-----
1-2-- : Problem No. 3
--X3- : Solutions (5 Moves, 9 Steps) ... 5
4---X : Other solutions (5 Moves) ..... 4
----5 : Positions evaluated ..... 2,633

```

```

2-L X-LU 1-DR 3-DL X-DR
2-L X-LU 1-DR 5-UL X-DR
2-L X-LU 5-UL 1-DR X-DR
2-L 1-DR X-LU 3-DL X-DR
2-L 1-DR X-LU 5-UL X-DR

```

```

-----
1-2-- : Problem No. 3
--X3- : Solutions (4 Moves, 8 Steps) ... 3
4---X : Other solutions (4 Moves) ..... 1
X---5 : Positions evaluated ..... 1,864

```

```

5-UL 2-LDR 4-U X-UR
5-UL 4-U 1-RDR X-UR
5-UL 4-U 2-LDR X-UR

```

```

1-2-- : Problem No. 3
----- :
----3 : Solutions (4 Moves, 8 Steps) ... 3
4---- : Other solutions (4 Moves) ..... 1
--X-5 : Positions evaluated ..... 2,920

```

```

2-L 1-DR 3-DLU X-UR
2-L 1-DR 5-ULU X-UR
2-L 5-ULU 1-DR X-UR

```

```

-----
1-2-- : Problem No. 3
----- :
----3 : Solutions (4 Moves, 7 Steps) ... 3
4---- : Other solutions (4 Moves) ..... 3
--X-5 : Positions evaluated ..... 3,129

```

```

1-DR 5-LU 4-RU X-U
5-L 1-DRD 4-RU X-U
5-UL 1-RD 3-LU X-U

```

```

-----
1-2-- : Problem No. 3
----- :
----3 : Solutions (4 Moves, 10 Steps) ... 3
4---- : Other solutions (4 Moves) ..... 2
---X5 : Positions evaluated ..... 686

```

```

2-L 1-DR 3-DLU X-ULUR
2-L 1-DR 5-ULU X-ULUR
2-L 5-ULU 1-DR X-ULUR

```

## Figure 3 - Problem No. 4

```

Configurations ..... 19
Configurations with solutions ..... 19
  With all UFOs significant ..... 13
  With insignificant UFOs ..... 6

```

```

Most moves for minimum solution ..... 6
Most steps for minimum solution ..... 10
Most solutions ..... 14

```

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 2     | 2         | 2        | 2   |
| 4     | 11        | 6        | 9   |
| 5     | 4         | 6        | 10  |
| 6     | 2         | 10       | 10  |

```

-----
12X-- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 6 Steps) ... 3
----- : Other solutions (4 Moves) ..... 0
5---6 : Positions evaluated ..... 4,381

```

```

3-R 6-L 2-D X-LDR
6-L 2-D 3-R X-LDR
6-L 3-R 2-D X-LDR

```

```

-----
12-X- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 6 Steps) ... 3
----- : Other solutions (4 Moves) ..... 0
5---6 : Positions evaluated ..... 20,541

```

```

3-R 6-L 2-D X-LDR
6-L 2-D 3-R X-LDR
6-L 3-R 2-D X-LDR

```

```

-----
12--X : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 6 Steps) ... 3
----- : Other solutions (4 Moves) ..... 2
5---6 : Positions evaluated ..... 11,081

```

```

3-R 6-L 2-D X-LDR
6-L 2-D 3-R X-LDR
6-L 3-R 2-D X-LDR

```

```

-----
12--- : Problem No. 4
X----- :
--3-4 : Solutions (6 Moves, 10 Steps) ... 3
----- : Other solutions (6 Moves) ..... 6
5---6 : Positions evaluated ..... 19,301

```

```

3-R 4-D X-RD 1-D 6-LU X-LUR
3-R 4-D X-RD 6-LU 1-D X-LUR
3-R 4-D 6-LU X-RD 1-D X-LUR

```

```

-----
12--- : Problem No. 4
-X----- :
--3-4 : Solutions (4 Moves, 6 Steps) ... 5
----- : Other solutions (4 Moves) ..... 2
5---6 : Positions evaluated ..... 528

```

```

1-D 3-R 4-DL X-DR - Not Sig (2)
1-D 3-R 6-UL X-DR - Not Sig (2)
1-D 6-UL 3-R X-DR - Not Sig (2)
3-R 1-D 4-DL X-DR - Not Sig (2)
3-R 1-D 6-UL X-DR - Not Sig (2)

```

```

-----
12--- : Problem No. 4
--X--- :
--3-4 : Solutions (5 Moves, 6 Steps) ... 3
----- : Other solutions (5 Moves) ..... 18
5---6 : Positions evaluated ..... 1,361

```

```

1-D 3-R 5-RU 1-R X-D - Not Sig (2)
1-D 5-R 3-RD 1-R X-D - Not Sig (2)
3-R 1-D 5-RU 1-R X-D - Not Sig (2)

```

```

12--- : Problem No. 4
---X- :
--3-4 : Solutions (5 Moves, 7 Steps) ... 8
----- : Other solutions (5 Moves) ..... 3
5---6 : Positions evaluated ..... 3,378

```

```

3-R 6-L 2-D 5-U X-LDR
3-R 6-L 5-U 2-D X-LDR
6-L 2-D 3-R 5-U X-LDR
6-L 2-D 5-U 3-R X-LDR
6-L 3-R 2-D 5-U X-LDR
6-L 3-R 5-U 2-D X-LDR
6-L 5-U 2-D 3-R X-LDR
6-L 5-U 3-R 2-D X-LDR

```

```

-----
12--- : Problem No. 4
---X- :
--3-4 : Solutions (4 Moves, 9 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
5---6 : Positions evaluated ..... 1,590

```

```

1-D 3-R 4-DLU X-DLUR
3-R 1-D 4-DLU X-DLUR

```

```

-----
12--- : Problem No. 4
----- :
X-3-4 : Solutions (2 Moves, 2 Steps) ... 1
----- : Other solutions (2 Moves) ..... 0
5---6 : Positions evaluated ..... 1,271

```

```

3-R X-R - Not Sig (1,2,5,6)

```

```

-----
12--- : Problem No. 4
----- :
-X3-4 : Solutions (2 Moves, 2 Steps) ... 1
----- : Other solutions (2 Moves) ..... 0
5---6 : Positions evaluated ..... 895

```

```

3-R X-R - Not Sig (1,2,5,6)

```

```

-----
12--- : Problem No. 4
----- :
--3X4 : Solutions (6 Moves, 10 Steps) ... 7
----- : Other solutions (6 Moves) ..... 0
5---6 : Positions evaluated ..... 1,429

```

```

1-D 5-R X-DLU 3-R 4-DL X-DR
1-D 5-R X-DLU 3-R 5-UL X-DR
1-D 5-R X-DLU 3-R 6-UL X-DR
1-D 5-R X-DLU 6-UL 3-R X-DR
1-D 5-R 6-ULU X-DLU 3-R X-R
1-D 5-R 6-ULU X-DL 3-R X-UR
1-D 5-R 6-ULU X-D 3-R X-LUR

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (5 Moves, 10 Steps) ... 3
X---- : Other solutions (5 Moves) ..... 0
5---6 : Positions evaluated ..... 26,039

```

```

3-R 4-DL 5-RUL 4-U X-RUR - Not Sig (1)
3-R 5-RUL 4-DL 5-U X-RUR - Not Sig (1)
3-R 5-RUL 6-UL 5-U X-RUR - Not Sig (1)

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (5 Moves, 7 Steps) ... 14
-X--- : Other solutions (5 Moves) ..... 11
5---6 : Positions evaluated ..... 5,723

```

```

X-U 1-D 3-R 4-DL X-DR
X-U 1-D 3-R 6-UL X-DR
X-U 1-D 6-UL 3-R X-DR
X-U 3-R 1-D 4-DL X-DR
X-U 3-R 1-D 6-UL X-DR
1-D X-U 3-R 4-DL X-DR
1-D X-U 3-R 6-UL X-DR
1-D X-U 6-UL 3-R X-DR
1-D 3-R X-U 4-DL X-DR
1-D 3-R X-U 6-UL X-DR
3-R X-U 1-D 4-DL X-DR
3-R X-U 1-D 6-UL X-DR
3-R 1-D X-U 4-DL X-DR
3-R 1-D X-U 6-UL X-DR

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 7 Steps) ... 6
--X- : Other solutions (4 Moves) ..... 0
5---6 : Positions evaluated ..... 3,537

```

```

1-D 3-R 6-LU X-LUR
1-D 6-LU 3-R X-LUR
3-R 1-D 6-LU X-LUR
3-R 6-LU 1-D X-LUR
6-LU 1-D 3-R X-LUR
6-LU 3-R 1-D X-LUR

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 7 Steps) ... 6
--X- : Other solutions (4 Moves) ..... 0
5---6 : Positions evaluated ..... 1,278

```

```

1-D 3-R 6-LU X-LUR
1-D 6-LU 3-R X-LUR
3-R 1-D 6-LU X-LUR
3-R 6-LU 1-D X-LUR
6-LU 1-D 3-R X-LUR
6-LU 3-R 1-D X-LUR

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 7 Steps) ... 6
---X : Other solutions (4 Moves) ..... 2
5---6 : Positions evaluated ..... 1,136

```

```

1-D 3-R 6-LU X-LUR
1-D 6-LU 3-R X-LUR
3-R 1-D 6-LU X-LUR
3-R 6-LU 1-D X-LUR
6-LU 1-D 3-R X-LUR
6-LU 3-R 1-D X-LUR

```

```

12--- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 7 Steps) ... 5
----- : Other solutions (4 Moves) ..... 5
5X-6 : Positions evaluated ..... 6,203

```

```

1-D 3-R 4-DLU X-UR
1-D 3-R 6-ULU X-UR
1-D 6-ULU 3-R X-UR
3-R 1-D 4-DLU X-UR
3-R 1-D 6-ULU X-UR

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 8 Steps) ... 8
----- : Other solutions (4 Moves) ..... 13
5-X-6 : Positions evaluated ..... 13,358

```

```

1-D 3-R 4-DLU X-LUR
1-D 3-R 6-ULU X-LUR
1-D 4-L 3-DLU X-LUR - Not Sig (6)
1-D 6-ULU 3-R X-LUR
3-R 1-D 4-DLU X-LUR
3-R 1-D 6-ULU X-LUR
4-L 1-D 3-DLU X-LUR - Not Sig (6)
4-L 3-D 1-DRU X-LUR - Not Sig (6)

```

```

-----
12--- : Problem No. 4
----- :
--3-4 : Solutions (4 Moves, 8 Steps) ... 5
----- : Other solutions (4 Moves) ..... 8
5--X6 : Positions evaluated ..... 5,024

```

```

1-D 3-R 4-DLU X-LUR
1-D 3-R 6-ULU X-LUR
1-D 6-ULU 3-R X-LUR
3-R 1-D 4-DLU X-LUR
3-R 1-D 6-ULU X-LUR

```

## Figure 4 - Problem Nos. 1 - 3

```

Configurations ..... 84
Configurations with solutions ..... 75
  With all pieces significant ..... 69
  With insignificant pieces ..... 6

```

```

Most moves for minimum solution ..... 5
Most steps for minimum solution ..... 9
Most solutions ..... 6

```

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 2     | 1         | 3        | 3   |
| 3     | 44        | 4        | 8   |
| 4     | 28        | 5        | 9   |
| 5     | 2         | 9        | 9   |

```

-----
1X- : Problem No. 1
--2 :
-3---- : Solutions (3 Moves, 7 Steps) ... 1
---4--- : Other solutions (3 Moves) ..... 1
---5--- : Positions evaluated ..... 31
--- :
--- :

```

X-DLUR 4-UL X-D

```

-----
1-X : Problem No. 1
--2 :
-3---- : Solutions (3 Moves, 8 Steps) ... 1
---4--- : Other solutions (3 Moves) ..... 1
---5--- : Positions evaluated ..... 33
--- :
--- :

```

X-LDLUR 4-UL X-D

```

-----
1- : Problem No. 1
X-2 :
-3---- : Solutions (3 Moves, 4 Steps) ... 1
---4--- : Other solutions (3 Moves) ..... 1
---5--- : Positions evaluated ..... 35
--- :
--- :

```

X-R 4-UL X-D - Not Sig (1)

```

-----
1-- : Problem No. 1
-X2 :
-3---- : Solutions (2 Moves, 3 Steps) ... 1
---4--- : Other solutions (2 Moves) ..... 1
---5--- : Positions evaluated ..... 37
--- :
--- :

```

4-UL X-D - Not Sig (1,2)

```

-----
1-- : Problem No. 1
--2 :
X3---- : Solutions ..... None
---4--- :
---5--- : Positions evaluated ..... 1
--- :
--- :

```

```

-----
1-- : Problem No. 1
--2 :
-3X---- : Solutions (3 Moves, 5 Steps) ... 1
---4--- : Other solutions (3 Moves) ..... 1
---5--- : Positions evaluated ..... 31
--- :
--- :

```

X-UR 4-UL X-D



```

1-- : Problem No. 2
X-2 :
-3---- : Solutions (4 Moves, 5 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 669
--- :
-5- :

```

X-R 5-U 4-UL X-D - Not Sig (1)  
5-U X-R 4-UL X-D - Not Sig (1)

```

1-- : Problem No. 2
-X2 :
-3---- : Solutions (3 Moves, 4 Steps) ... 1
---4--- : Other solutions (3 Moves) ..... 1
----- : Positions evaluated ..... 742
--- :
-5- :

```

5-U 4-UL X-D - Not Sig (1,2)

```

1-- : Problem No. 2
--2 :
X3---- : Solutions ..... None
---4--- :
----- : Positions evaluated ..... 3
--- :
-5- :

```

```

1-- : Problem No. 2
--2 :
-3X---- : Solutions (4 Moves, 6 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 616
--- :
-5- :

```

X-UR 5-U 4-UL X-D  
5-U X-UR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3-X--- : Solutions (4 Moves, 7 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 650
--- :
-5- :

```

X-LUR 5-U 4-UL X-D  
5-U X-LUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3--X-- : Solutions (4 Moves, 7 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 644
--- :
-5- :

```

X-LUR 5-U 4-UL X-D  
5-U X-LUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3--X- : Solutions (4 Moves, 7 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 642
--- :
-5- :

```

X-LUR 5-U 4-UL X-D  
5-U X-LUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3---X : Solutions (4 Moves, 7 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 642
--- :
-5- :

```

X-LUR 5-U 4-UL X-D  
5-U X-LUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 7 Steps) ... 2
X--4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 697
--- :
-5- :

```

X-RUR 5-U 4-UL X-D  
5-U X-RUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 7 Steps) ... 2
-X-4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 712
--- :
-5- :

```

X-RUR 5-U 4-UL X-D  
5-U X-RUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 6 Steps) ... 2
--X4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 687
--- :
-5- :

```

X-UR 5-U 4-UL X-D  
5-U X-UR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 8 Steps) ... 2
---4X--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 717
--- :
-5- :

```

X-ULUR 5-U 4-UL X-D  
5-U X-ULUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 9 Steps) ... 2
---4-X- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 794
--- :
-5- :

```

X-LULUR 5-U 4-UL X-D  
5-U X-LULUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 9 Steps) ... 2
---4-X : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 727
--- :
-5- :

```

X-LULUR 5-U 4-UL X-D  
5-U X-LULUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 7 Steps) ... 1
---4--- : Other solutions (4 Moves) ..... 1
X----- : Positions evaluated ..... 38
--- :
-5- :

```

5-U X-RUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 7 Steps) ... 1
---4--- : Other solutions (4 Moves) ..... 9
-X----- : Positions evaluated ..... 1,097
--- :
-5- :

```

5-U X-RUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 6 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
--X----- : Positions evaluated ..... 687
--- :
-5- :

```

X-UR 5-U 4-UL X-D  
5-U X-UR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions ..... None
---4--- :
---X----- : Positions evaluated ..... 4
--- :
-5- :

```

1-- : Problem No. 2

```

--2 :
-3----- : Solutions (4 Moves, 8 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
---X--- : Positions evaluated ..... 682
--- :
-5- :

```

X-ULUR 5-U 4-UL X-D  
5-U X-ULUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 9 Steps) ... 1
---4--- : Other solutions (4 Moves) ..... 1
---X- : Positions evaluated ..... 37
--- :
-5- :

```

5-U X-LULUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 9 Steps) ... 1
---4--- : Other solutions (4 Moves) ..... 1
---X- : Positions evaluated ..... 37
--- :
-5- :

```

5-U X-LULUR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions (4 Moves, 6 Steps) ... 2
---4--- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 687
X-- :
-5- :

```

X-UR 5-U 4-UL X-D  
5-U X-UR 4-UL X-D

```

1-- : Problem No. 2
--2 :
-3----- : Solutions ..... None
---4--- :
---X- : Positions evaluated ..... 4
-X- :
-5- :

```

```

1-- : Problem No. 2
--2 :
-3---- : Solutions (4 Moves, 8 Steps) ... 2
--4---- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 680
--X :
-5- :

```

X-ULUR 5-U 4-UL X-D  
5-U X-ULUR 4-UL X-D

```

-----
1-- : Problem No. 2
--2 :
-3---- : Solutions (4 Moves, 6 Steps) ... 2
--4---- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 687
--- :
X5- :

```

X-UR 5-U 4-UL X-D  
5-U X-UR 4-UL X-D

```

-----
1-- : Problem No. 2
--2 :
-3---- : Solutions (4 Moves, 8 Steps) ... 2
--4---- : Other solutions (4 Moves) ..... 2
----- : Positions evaluated ..... 680
--- :
-5X :

```

X-ULUR 5-U 4-UL X-D  
5-U X-ULUR 4-UL X-D

```

-----
1X- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 5 Steps) ... 2
--4---- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 342
--- :
-5- :

```

4-D 1-DRD X-D  
4-D 3-URD X-D

```

-----
1-X : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 6 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 622
--- :
-5- :

```

4-D 3-URD X-LD

```

-----
1-- : Problem No. 3
X-2 :
--3---- : Solutions ..... None
--4---- :
----- : Positions evaluated ..... 299
--- :
-5- :

```

```

-----
1-- : Problem No. 3
-X2 :
--3---- : Solutions ..... None
--4---- :
----- : Positions evaluated ..... 255
--- :
-5- :

```

```

-----
1-- : Problem No. 3
--2 :
X-3---- : Solutions (5 Moves, 9 Steps) ... 6
--4---- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 1,231
--- :
-5- :

```

3-URD X-RUR 4-D 3-D X-D  
3-URD X-RU 4-D 3-D X-RD  
3-URD X-R 4-D 3-D X-URD  
3-URD 4-D X-RUR 3-D X-D  
3-URD 4-D X-RU 3-D X-RD  
3-URD 4-D X-R 3-D X-URD

```

-----
1-- : Problem No. 3
--2 :
-X3---- : Solutions (5 Moves, 9 Steps) ... 6
--4---- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 389
--- :
-5- :

```

3-URD X-RUR 4-D 3-D X-D  
3-URD X-RU 4-D 3-D X-RD  
3-URD X-R 4-D 3-D X-URD  
3-URD 4-D X-RUR 3-D X-D  
3-URD 4-D X-RU 3-D X-RD  
3-URD 4-D X-R 3-D X-URD

```

-----
1-- : Problem No. 3
--2 :
--3X--- : Solutions ..... None
--4---- :
----- : Positions evaluated ..... 96
--- :
-5- :

```

```

-----
1-- : Problem No. 3
--2 :
--3-X-- : Solutions (3 Moves, 6 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 354
--- :
-5- :

```

4-D 1-DRD X-LD

```

1-- : Problem No. 3
--2 :
--3--X- : Solutions (3 Moves, 6 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 505
--- :
-5- :

```

4-D 1-DRD X-LD

```

-----
1-- : Problem No. 3
--2 :
--3--X- : Solutions (3 Moves, 6 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 520
--- :
-5- :

```

4-D 1-DRD X-LD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (4 Moves, 8 Steps) ... 1
X-4---- : Other solutions (4 Moves) ..... 0
----- : Positions evaluated ..... 836
--- :
-5- :

```

X-R 4-D 3-URD X-URD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (4 Moves, 8 Steps) ... 1
-X-4--- : Other solutions (4 Moves) ..... 0
----- : Positions evaluated ..... 941
--- :
-5- :

```

X-R 4-D 3-URD X-URD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 7 Steps) ... 1
--X4--- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 278
--- :
-5- :

```

4-D 3-URD X-URD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 7 Steps) ... 1
--4X--- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 970
--- :
-5- :

```

4-D 1-DRD X-ULD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (4 Moves, 8 Steps) ... 2
--4-X- : Other solutions (4 Moves) ..... 1,867
----- : Positions evaluated ..... 1,867
--- :
-5- :

```

X-LU 4-D 1-DRD X-LD  
X-L 4-D 1-DRD X-ULD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (4 Moves, 8 Steps) ... 2
--4--X- : Other solutions (4 Moves) ..... 0
----- : Positions evaluated ..... 1,432
--- :
-5- :

```

X-LU 4-D 1-DRD X-LD  
X-L 4-D 1-DRD X-ULD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 8 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
X----- : Positions evaluated ..... 434
--- :
-5- :

```

4-D 3-URD X-RURD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 8 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
-X----- : Positions evaluated ..... 457
--- :
-5- :

```

4-D 3-URD X-RURD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 7 Steps) ... 1
--4---- : Other solutions (3 Moves) ..... 0
--X----- : Positions evaluated ..... 838
--- :
-5- :

```

4-D 3-URD X-URD

```

-----
1-- : Problem No. 3
--2 :
--3---- : Solutions (3 Moves, 4 Steps) ... 2
--4---- : Other solutions (3 Moves) ..... 0
--X----- : Positions evaluated ..... 162
--- :
-5- :

```

1-DR 4-U X-U - Not Sig (5)  
3-UR 4-U X-U - Not Sig (5)

```

1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 7 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 848
---- :
--5- :

4-D 1-DRD X-ULD
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 8 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 299
---- :
--5- :

4-D 1-DRD X-LULD
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 8 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 264
---- :
--5- :

4-D 1-DRD X-LULD
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 7 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 838
---- :
--5- :

4-D 3-URD X-URD
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 4 Steps) ... 2
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 163
---- :
--5- :

1-DR 4-U X-U - Not Sig (5)
3-UR 4-U X-U - Not Sig (5)
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 7 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 794
---- :
--5- :

4-D 1-DRD X-ULD
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 7 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 781
---- :
--5- :

4-D 3-URD X-URD
-----
1-- : Problem No. 3
--2 :
--3--- : Solutions (3 Moves, 7 Steps) ... 1
--4--- : Other solutions (3 Moves) ..... 0
----X- : Positions evaluated ..... 754
---- :
--5X :

4-D 1-DRD X-ULD
-----

```

## Figure 5 - Problem No. 1

```

Configurations ..... 171
Configurations with solutions ..... 171
  With all UFOs significant ..... 146
  With insignificant UFOs ..... 25

Most moves for minimum solution ..... 7
Most steps for minimum solution ..... 16
Most solutions ..... 6

```

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 3     | 110       | 4        | 16  |
| 4     | 45        | 5        | 11  |
| 5     | 2         | 10       | 12  |
| 6     | 13        | 8        | 15  |
| 7     | 1         | 13       | 13  |

```

12XY- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 6 Steps) ... 2
---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 362

```

```

1-DRD X-D Y-LD
4-URD X-D Y-LD

```

```

12X-Y : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 6 Steps) ... 2
---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 582

```

```

1-DRD X-D Y-LD
4-URD X-D Y-LD

```

```

12X-- : Problem No. 1
Y--3- :
4---- : Solutions (4 Moves, 6 Steps) ... 4
---- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 201

```

```

X-D Y-RD 1-DR X-U - Not Sig (2)
X-D Y-RD 4-UR X-U - Not Sig (2)
Y-RD X-D 1-DR Y-U - Not Sig (2)
Y-RD X-D 4-UR Y-U - Not Sig (2)

```

```

12X-- : Problem No. 1
--Y3- :
4---- : Solutions (4 Moves, 6 Steps) ... 4
---- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 290

```

```

X-D Y-RD 1-DR X-U - Not Sig (2)
X-D Y-RD 4-UR X-U - Not Sig (2)
Y-RD X-D 1-DR Y-U - Not Sig (2)
Y-RD X-D 4-UR Y-U - Not Sig (2)

```

```

12X-- : Problem No. 1
--Y3- :
4---- : Solutions (4 Moves, 5 Steps) ... 2
---- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 227

```

```

Y-D X-D 1-DR Y-U - Not Sig (2)
Y-D X-D 4-UR Y-U - Not Sig (2)

```

```

12X-- : Problem No. 1
---3Y :
4---- : Solutions (6 Moves, 11 Steps) ... 1
---- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 208

```

```

X-D 1-DRDLU 3-L X-U 3-D Y-LD

```

```

12X-- : Problem No. 1
---3- :
4Y--- : Solutions (3 Moves, 7 Steps) ... 4
---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 648

```

```

1-DRD X-D Y-URD
1-DRD Y-URD X-D
4-URD X-D Y-URD
4-URD Y-URD X-D

```

```

12X-- : Problem No. 1
---3- :
4--Y- : Solutions (3 Moves, 8 Steps) ... 2
---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 816

```

```

1-DRD X-D Y-LURD
1-DRD Y-LURD X-D

```

```

12X-- : Problem No. 1
---3- :
4---Y : Solutions (3 Moves, 8 Steps) ... 2
---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 878

```

```

1-DRD X-D Y-LURD
1-DRD Y-LURD X-D

```

```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) ... 2
Y--- : Other solutions (3 Moves) ..... 4
--5-- : Positions evaluated ..... 3,322

```

```

4-URD X-D Y-URD - Not Sig (2)
4-URD Y-URD X-D - Not Sig (2)

```

```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) ... 4
-Y--- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 578

```

```

1-DRD X-D Y-URD
1-DRD Y-URD X-D
4-URD X-D Y-URD
4-URD Y-URD X-D

```

```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 4 Steps) ... 2
--Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 137

```

```

X-D 1-DR Y-U - Not Sig (2,5)
X-D 4-UR Y-U - Not Sig (2,5)

```

```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) ... 2
--Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,096

```

```

1-DRD X-D Y-ULURD
1-DRD Y-ULURD X-D

```

```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 10 Steps) ... 2
---Y : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 7,367

```

```

1-DRD X-D Y-LULURD
1-DRD Y-LULURD X-D

```

```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) ... 2
---- : Other solutions (3 Moves) ..... 6
Y-5-- : Positions evaluated ..... 3,365

```

```

4-URD X-D Y-URD - Not Sig (2)
4-URD Y-URD X-D - Not Sig (2)

```



```

12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) ... 4
----- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 587

1-DRD X-D Y-URD
1-DRD Y-URD X-D
4-URD X-D Y-URD
4-URD Y-URD X-D
-----
12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,096

1-DRD X-D Y-ULURD
1-DRD Y-ULURD X-D
-----
12X-- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 10 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,422

1-DRD X-D Y-LULURD
1-DRD Y-LULURD X-D
-----
12-XY : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 482

1-DRD X-LD Y-LD
4-URD X-LD Y-LD
-----
12-X- : Problem No. 1
Y--3- :
4---- : Solutions (4 Moves, 7 Steps) ... 4
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 715

X-LD Y-RD 1-DR X-U
X-LD Y-RD 4-UR X-U
Y-RD X-LD 1-DR Y-U
Y-RD X-LD 4-UR Y-U
-----
12-X- : Problem No. 1
-Y-3- :
4---- : Solutions (4 Moves, 7 Steps) ... 4
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 1,178

X-LD Y-RD 1-DR X-U
X-LD Y-RD 4-UR X-U
Y-RD X-LD 1-DR Y-U
Y-RD X-LD 4-UR Y-U
-----
12-X- : Problem No. 1
--Y3- :
4---- : Solutions (4 Moves, 6 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 907

Y-D X-LD 1-DR Y-U
Y-D X-LD 4-UR Y-U
-----
12-X- : Problem No. 1
--3Y- :
4---- : Solutions (6 Moves, 12 Steps) ... 1
----- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 769

X-LD 1-DRDLU 3-L X-U 3-D Y-LD
-----
12-X- : Problem No. 1
---3- :
4Y--- : Solutions (3 Moves, 8 Steps) ... 4
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,644

1-DRD X-LD Y-URD
1-DRD Y-URD X-LD
4-URD X-LD Y-URD
4-URD Y-URD X-LD
-----
12-X- : Problem No. 1
---3- :
4--Y- : Solutions (3 Moves, 9 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 2,102

1-DRD X-LD Y-LURD
1-DRD Y-LURD X-LD
-----
12-X- : Problem No. 1
---3- :
4--Y- : Solutions (3 Moves, 9 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 2,159

1-DRD X-LD Y-LURD
1-DRD Y-LURD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 8 Steps) ... 2
Y---- : Other solutions (3 Moves) ..... 4
--5-- : Positions evaluated ..... 4,017

4-URD X-LD Y-URD
4-URD Y-URD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 8 Steps) ... 4
-Y--- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,497

1-DRD X-LD Y-URD
1-DRD Y-URD X-LD
4-URD X-LD Y-URD
4-URD Y-URD X-LD

```

```

12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 5 Steps) ... 2
--Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 320

X-LD 1-DR Y-U - Not Sig (5)
X-LD 4-UR Y-U - Not Sig (5)
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 10 Steps) ... 2
---Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 3,182

1-DRD X-LD Y-ULURD
1-DRD Y-ULURD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 11 Steps) ... 2
---Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 8,928

1-DRD X-LD Y-LULURD
1-DRD Y-LULURD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 8 Steps) ... 2
----- : Other solutions (3 Moves) ..... 6
Y-5-- : Positions evaluated ..... 5,733

4-URD X-LD Y-URD
4-URD Y-URD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 8 Steps) ... 4
----- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 1,492

1-DRD X-LD Y-URD
1-DRD Y-URD X-LD
4-URD X-LD Y-URD
4-URD Y-URD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 10 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 2,936

1-DRD X-LD Y-ULURD
1-DRD Y-ULURD X-LD
-----
12-X- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 11 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 3,802

1-DRD X-LD Y-LULURD
1-DRD Y-LULURD X-LD
-----
12--X : Problem No. 1
Y--3- :
4---- : Solutions (4 Moves, 7 Steps) ... 4
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 514

X-LD Y-RD 1-DR X-U
X-LD Y-RD 4-UR X-U
Y-RD X-LD 1-DR Y-U
Y-RD X-LD 4-UR Y-U
-----
12--X : Problem No. 1
-Y-3- :
4---- : Solutions (4 Moves, 7 Steps) ... 4
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 839

X-LD Y-RD 1-DR X-U
X-LD Y-RD 4-UR X-U
Y-RD X-LD 1-DR Y-U
Y-RD X-LD 4-UR Y-U
-----
12--X : Problem No. 1
--Y3- :
4---- : Solutions (4 Moves, 6 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 779

Y-D X-LD 1-DR Y-U
Y-D X-LD 4-UR Y-U
-----
12--X : Problem No. 1
---3Y- :
4---- : Solutions (6 Moves, 12 Steps) ... 1
----- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 478

X-LD 1-DRDLU 3-L X-U 3-D Y-LD
-----
12--X : Problem No. 1
---3- :
4Y--- : Solutions (3 Moves, 8 Steps) ... 4
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,402

1-DRD X-LD Y-URD
1-DRD Y-URD X-LD
4-URD X-LD Y-URD
4-URD Y-URD X-LD
-----
12--X : Problem No. 1
---3- :
4--Y- : Solutions (3 Moves, 9 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,694

1-DRD X-LD Y-LURD
1-DRD Y-LURD X-LD

```

12--X : Problem No. 1  
---3- :  
4---Y : Solutions (3 Moves, 9 Steps) ... 2  
----- : Other solutions (3 Moves) ..... 0  
--5-- : Positions evaluated ..... 2,227

1-DRD X-LD Y-LURD  
1-DRD Y-LURD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 8 Steps) ... 2  
Y--- : Other solutions (3 Moves) ..... 4  
--5-- : Positions evaluated ..... 3,838

4-URD X-LD Y-URD  
4-URD Y-URD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 8 Steps) ... 4  
-Y--- : Other solutions (3 Moves) ..... 0  
--5-- : Positions evaluated ..... 1,267

1-DRD X-LD Y-URD  
1-DRD Y-URD X-LD  
4-URD X-LD Y-URD  
4-URD Y-URD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 5 Steps) ... 2  
--Y-- : Other solutions (3 Moves) ..... 0  
--5-- : Positions evaluated ..... 231

X-LD 1-DR Y-U - Not Sig (5)  
X-LD 4-UR Y-U - Not Sig (5)

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 10 Steps) ... 2  
--Y- : Other solutions (3 Moves) ..... 0  
--5-- : Positions evaluated ..... 2,443

1-DRD X-LD Y-ULURD  
1-DRD Y-ULURD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 11 Steps) ... 2  
---Y : Other solutions (3 Moves) ..... 1  
--5-- : Positions evaluated ..... 11,091

1-DRD X-LD Y-LULURD  
1-DRD Y-LULURD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 8 Steps) ... 2  
----- : Other solutions (3 Moves) ..... 6  
Y-5-- : Positions evaluated ..... 5,147

4-URD X-LD Y-URD  
4-URD Y-URD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 8 Steps) ... 4  
----- : Other solutions (3 Moves) ..... 0  
-Y5-- : Positions evaluated ..... 1,262

1-DRD X-LD Y-URD  
1-DRD Y-URD X-LD  
4-URD X-LD Y-URD  
4-URD Y-URD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 10 Steps) ... 2  
----- : Other solutions (3 Moves) ..... 0  
--5Y- : Positions evaluated ..... 2,308

1-DRD X-LD Y-ULURD  
1-DRD Y-ULURD X-LD

12--X : Problem No. 1  
---3- :  
4--- : Solutions (3 Moves, 11 Steps) ... 2  
----- : Other solutions (3 Moves) ..... 1  
--5-Y : Positions evaluated ..... 4,539

1-DRD X-LD Y-LULURD  
1-DRD Y-LULURD X-LD

12--X : Problem No. 1  
XY-3- :  
4--- : Solutions (4 Moves, 7 Steps) ... 2  
----- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 63

Y-RD X-RD 1-DR Y-U - Not Sig (2)  
Y-RD X-RD 4-UR Y-U - Not Sig (2)

12--X : Problem No. 1  
X-Y3- :  
4--- : Solutions (4 Moves, 6 Steps) ... 2  
----- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 144

Y-D X-RD 1-DR Y-U - Not Sig (2)  
Y-D X-RD 4-UR Y-U - Not Sig (2)

12--X : Problem No. 1  
X--3Y :  
4--- : Solutions (6 Moves, 12 Steps) ... 1  
----- : Other solutions (6 Moves) ..... 0  
--5-- : Positions evaluated ..... 193

X-RD 1-DRDLU 3-L X-U 3-D Y-LD

12--- : Problem No. 1  
X--3- :  
4Y--- : Solutions (4 Moves, 8 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 329

X-RD Y-URD 1-DR X-U  
X-RD Y-URD 4-UR X-U  
Y-URD X-RD 1-DR Y-U  
Y-URD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--Y- : Solutions (4 Moves, 9 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 494

X-RD Y-LURD 1-DR X-U  
X-RD Y-LURD 4-UR X-U  
Y-LURD X-RD 1-DR Y-U  
Y-LURD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--Y- : Solutions (4 Moves, 9 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 576

X-RD Y-LURD 1-DR X-U  
X-RD Y-LURD 4-UR X-U  
Y-LURD X-RD 1-DR Y-U  
Y-LURD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 9 Steps) ... 2  
Y--- : Other solutions (4 Moves) ..... 4  
--5-- : Positions evaluated ..... 1,334

X-RD Y-RURD 1-DR X-U  
X-RD Y-RURD 4-UR X-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 8 Steps) ... 4  
-Y--- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 372

X-RD Y-URD 1-DR X-U  
X-RD Y-URD 4-UR X-U  
Y-URD X-RD 1-DR Y-U  
Y-URD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (3 Moves, 5 Steps) ... 2  
--Y-- : Other solutions (3 Moves) ..... 0  
--5-- : Positions evaluated ..... 47

X-RD 1-DR Y-U - Not Sig (2,5)  
X-RD 4-UR Y-U - Not Sig (2,5)

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 10 Steps) ... 4  
---Y- : Other solutions (4 Moves) ..... 0  
--5-- : Positions evaluated ..... 796

X-RD Y-ULURD 1-DR X-U  
X-RD Y-ULURD 4-UR X-U  
Y-ULURD X-RD 1-DR Y-U  
Y-ULURD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 11 Steps) ... 2  
---Y : Other solutions (4 Moves) ..... 5  
--5-- : Positions evaluated ..... 4,953

X-RD Y-LULURD 1-DR X-U  
X-RD Y-LULURD 4-UR X-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 9 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 2  
Y-5-- : Positions evaluated ..... 3,189

X-RD Y-RURD 1-DR X-U  
X-RD Y-RURD 4-UR X-U  
Y-RURD X-RD 1-DR Y-U  
Y-RURD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 8 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 0  
-Y5-- : Positions evaluated ..... 416

X-RD Y-URD 1-DR X-U  
X-RD Y-URD 4-UR X-U  
Y-URD X-RD 1-DR Y-U  
Y-URD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 10 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 0  
--5Y- : Positions evaluated ..... 796

X-RD Y-ULURD 1-DR X-U  
X-RD Y-ULURD 4-UR X-U  
Y-ULURD X-RD 1-DR Y-U  
Y-ULURD X-RD 4-UR Y-U

12--- : Problem No. 1  
X--3- :  
4--- : Solutions (4 Moves, 11 Steps) ... 4  
----- : Other solutions (4 Moves) ..... 0  
--5-Y : Positions evaluated ..... 1,058

X-RD Y-LULURD 1-DR X-U  
X-RD Y-LULURD 4-UR X-U  
Y-LULURD X-RD 1-DR Y-U  
Y-LULURD X-RD 4-UR Y-U

```

12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 6 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 93

```

```

Y-D X-RD 1-DR Y-U - Not Sig (2)
Y-D X-RD 4-UR Y-U - Not Sig (2)

```

```

----- :
12--- : Problem No. 1
-X3Y- :
4---- : Solutions (5 Moves, 12 Steps) ... 1
----- : Other solutions (5 Moves) ..... 0
--5-- : Positions evaluated ..... 447

```

```

3-LD X-R 1-DRDLU X-LD Y-LD

```

```

----- :
12--- : Problem No. 1
-X3-  :
4Y--- : Solutions (4 Moves, 8 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 307

```

```

X-RD Y-URD 1-DR X-U
X-RD Y-URD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4--Y- : Solutions (4 Moves, 9 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 528

```

```

X-RD Y-LURD 1-DR X-U
X-RD Y-LURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---Y : Solutions (4 Moves, 9 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 647

```

```

X-RD Y-LURD 1-DR X-U
X-RD Y-LURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 9 Steps) ... 2
Y---- : Other solutions (4 Moves) ..... 4
--5-- : Positions evaluated ..... 858

```

```

X-RD Y-RURD 1-DR X-U
X-RD Y-RURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 8 Steps) ... 2
-Y--- : Other solutions (4 Moves) ..... 2
--5-- : Positions evaluated ..... 765

```

```

X-RD Y-URD 1-DR X-U
X-RD Y-URD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (3 Moves, 5 Steps) ... 2
--Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 67

```

```

X-RD 1-DR Y-U - Not Sig (2,5)
X-RD 4-UR Y-U - Not Sig (2,5)

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 10 Steps) ... 2
--Y-  : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 928

```

```

X-RD Y-ULURD 1-DR X-U
X-RD Y-ULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 11 Steps) ... 2
---Y- : Other solutions (4 Moves) ..... 5
--5-- : Positions evaluated ..... 4,277

```

```

X-RD Y-LULURD 1-DR X-U
X-RD Y-LULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 9 Steps) ... 2
----- : Other solutions (4 Moves) ..... 2
Y-5-- : Positions evaluated ..... 4,013

```

```

X-RD Y-RURD 1-DR X-U
X-RD Y-RURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 8 Steps) ... 2
----- : Other solutions (4 Moves) ..... 2
-Y5-- : Positions evaluated ..... 789

```

```

X-RD Y-URD 1-DR X-U
X-RD Y-URD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 10 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5Y- : Positions evaluated ..... 928

```

```

X-RD Y-ULURD 1-DR X-U
X-RD Y-ULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
-X3-  :
4---- : Solutions (4 Moves, 11 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,292

```

```

X-RD Y-LULURD 1-DR X-U
X-RD Y-LULURD 4-UR X-U

```

```

12--- : Problem No. 1
--X3Y :
4---- : Solutions (6 Moves, 8 Steps) ... 2
----- : Other solutions (6 Moves) ..... 1
--5-- : Positions evaluated ..... 303

```

```

1-DR X-D 3-L X-U 3-D Y-LD - Not Sig (2)
4-UR X-D 3-L X-U 3-D Y-LD - Not Sig (2)

```

```

----- :
12--- : Problem No. 1
--X3-  :
4Y--- : Solutions (4 Moves, 7 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 343

```

```

X-D Y-URD 1-DR X-U
X-D Y-URD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4--Y- : Solutions (4 Moves, 8 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 548

```

```

X-D Y-LURD 1-DR X-U
X-D Y-LURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---Y : Solutions (4 Moves, 8 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 717

```

```

X-D Y-LURD 1-DR X-U
X-D Y-LURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 8 Steps) ... 2
Y---- : Other solutions (4 Moves) ..... 4
--5-- : Positions evaluated ..... 1,659

```

```

X-D Y-RURD 1-DR X-U
X-D Y-RURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 7 Steps) ... 2
-Y--- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 518

```

```

X-D Y-URD 1-DR X-U
X-D Y-URD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (3 Moves, 4 Steps) ... 2
--Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 95

```

```

X-D 1-DR Y-U - Not Sig (2,5)
X-D 4-UR Y-U - Not Sig (2,5)

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 9 Steps) ... 2
---Y- : Other solutions (4 Moves) ..... 0
--5-- : Positions evaluated ..... 1,016

```

```

X-D Y-ULURD 1-DR X-U
X-D Y-ULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 10 Steps) ... 2
---Y- : Other solutions (4 Moves) ..... 5
--5-- : Positions evaluated ..... 5,228

```

```

X-D Y-LULURD 1-DR X-U
X-D Y-LULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 8 Steps) ... 2
----- : Other solutions (4 Moves) ..... 2
Y-5-- : Positions evaluated ..... 3,840

```

```

X-D Y-RURD 1-DR X-U
X-D Y-RURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 7 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
-Y5-- : Positions evaluated ..... 584

```

```

X-D Y-URD 1-DR X-U
X-D Y-URD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 9 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,016

```

```

X-D Y-ULURD 1-DR X-U
X-D Y-ULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
--X3-  :
4---- : Solutions (4 Moves, 10 Steps) ... 2
----- : Other solutions (4 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,269

```

```

X-D Y-LULURD 1-DR X-U
X-D Y-LULURD 4-UR X-U

```

```

----- :
12--- : Problem No. 1
---3X- :
4Y--- : Solutions (6 Moves, 13 Steps) ... 2
----- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 868

```

```

Y-URD 1-DRDLU 3-L Y-U 3-D X-LD
Y-U 3-LD Y-R 1-DRDLU Y-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4--Y- : Solutions (6 Moves, 14 Steps) .. 2
----- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 923

```

```

Y-LURD 1-DRDLU 3-L Y-U 3-D X-LD
Y-LU 3-LD Y-R 1-DRDLU Y-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4--Y- : Solutions (6 Moves, 14 Steps) .. 2
----- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 972

```

```

Y-LURD 1-DRDLU 3-L Y-U 3-D X-LD
Y-LU 3-LD Y-R 1-DRDLU Y-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (7 Moves, 13 Steps) .. 1
Y---- : Other solutions (7 Moves) ..... 3
--5-- : Positions evaluated ..... 4,268

```

```

4-URDL Y-URD 4-U 3-L Y-U 3-D X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (6 Moves, 13 Steps) .. 2
-Y--- : Other solutions (6 Moves) ..... 0
--5-- : Positions evaluated ..... 831

```

```

Y-URD 1-DRDLU 3-L Y-U 3-D X-LD
Y-U 3-LD Y-R 1-DRDLU Y-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (5 Moves, 10 Steps) .. 1
--Y-- : Other solutions (5 Moves) ..... 0
--5-- : Positions evaluated ..... 112

```

```

1-DRDLU 3-L Y-U 3-D X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (6 Moves, 11 Steps) .. 6
--Y- : Other solutions (6 Moves) ..... 2
--5-- : Positions evaluated ..... 4,615

```

```

3-DL 1-DR Y-UL 2-D 1-LD X-LD
3-DL 1-DR Y-UL 3-U 1-LD X-LD
3-DL 1-DR 2-D Y-UL 1-LD X-LD
3-DL 4-UR Y-UL 2-D 4-LD X-LD
3-DL 4-UR Y-UL 3-U 4-LD X-LD
3-DL 4-UR 2-D Y-UL 4-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (3 Moves, 14 Steps) .. 1
---Y : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 6,463

```

```

1-DRD X-DLURD Y-LULURD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (6 Moves, 14 Steps) .. 4
----- : Other solutions (6 Moves) ..... 1
Y-5-- : Positions evaluated ..... 7,163

```

```

Y-RURD 1-DRDLU 3-L Y-U 3-D X-LD
Y-RU 3-LD Y-R 1-DRDLU Y-LD X-LD
1-DRD 4-D Y-RURD 1-LU 3-LD X-LD
4-URD 1-D Y-RURD 4-LU 3-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (6 Moves, 13 Steps) .. 2
----- : Other solutions (6 Moves) ..... 0
-Y5-- : Positions evaluated ..... 931

```

```

Y-URD 1-DRDLU 3-L Y-U 3-D X-LD
Y-U 3-LD Y-R 1-DRDLU Y-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (6 Moves, 15 Steps) .. 2
----- : Other solutions (6 Moves) ..... 0
--SY- : Positions evaluated ..... 2,228

```

```

Y-ULURD 1-DRDLU 3-L Y-U 3-D X-LD
Y-ULU 3-LD Y-R 1-DRDLU Y-LD X-LD

```

```

12--- : Problem No. 1
---3X :
4---- : Solutions (3 Moves, 16 Steps) .. 1
----- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 3,833

```

```

1-DRD X-DLULURD Y-LULURD

```

```

12--- : Problem No. 1
---3- :
4X-Y- : Solutions (3 Moves, 7 Steps) .... 4
----- : Other solutions (3 Moves) ..... 3
--5-- : Positions evaluated ..... 617

```

```

Y-L 1-DRD X-URD
Y-L 4-URD X-URD
1-DRD Y-L X-URD
4-URD Y-L X-URD

```

```

12--- : Problem No. 1
---3- :
4X--Y : Solutions (3 Moves, 7 Steps) .... 4
----- : Other solutions (3 Moves) ..... 1
--5-- : Positions evaluated ..... 998

```

```

Y-L 1-DRD X-URD
Y-L 4-URD X-URD
1-DRD Y-L X-URD
4-URD Y-L X-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 9 Steps) .... 2
Y---- : Other solutions (3 Moves) ..... 2
--5-- : Positions evaluated ..... 1,131

```

```

4-URD X-URD Y-URD
4-URD Y-URD X-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 9 Steps) .... 2
-Y--- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 521

```

```

1-DRD X-URD Y-URD
4-URD X-URD Y-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 6 Steps) .... 2
--Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 163

```

```

X-URD 1-DR Y-U - Not Sig (5)
X-URD 4-UR Y-U - Not Sig (5)

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 8 Steps) .... 4
--Y- : Other solutions (3 Moves) ..... 1
--5-- : Positions evaluated ..... 1,193

```

```

Y-UL 1-DRD X-URD
Y-UL 4-URD X-URD
1-DRD Y-UL X-URD
4-URD Y-UL X-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 9 Steps) .... 2
---Y : Other solutions (3 Moves) ..... 1
--5-- : Positions evaluated ..... 5,025

```

```

1-DRD Y-LUL X-URD
4-URD Y-LUL X-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 9 Steps) .... 2
----- : Other solutions (3 Moves) ..... 3
Y-5-- : Positions evaluated ..... 4,825

```

```

4-URD X-URD Y-URD
4-URD Y-URD X-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 9 Steps) .... 2
----- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 1,105

```

```

1-DRD X-URD Y-URD
4-URD X-URD Y-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 8 Steps) .... 4
----- : Other solutions (3 Moves) ..... 1
--SY- : Positions evaluated ..... 1,193

```

```

Y-UL 1-DRD X-URD
Y-UL 4-URD X-URD
1-DRD Y-UL X-URD
4-URD Y-UL X-URD

```

```

12--- : Problem No. 1
---3- :
4X--- : Solutions (3 Moves, 9 Steps) .... 4
----- : Other solutions (3 Moves) ..... 1
--5-Y : Positions evaluated ..... 1,569

```

```

Y-LUL 1-DRD X-URD
Y-LUL 4-URD X-URD
1-DRD Y-LUL X-URD
4-URD Y-LUL X-URD

```

```

12--- : Problem No. 1
---3- :
4--XY : Solutions (3 Moves, 11 Steps) .. 1
----- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 965

```

```

1-DRD X-LURD Y-LURD

```

```

12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 11 Steps) .. 2
Y---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,986

```

```

1-DRD X-LURD Y-RURD
1-DRD Y-RURD X-LURD

```

```

12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 10 Steps) .. 2
-Y--- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,185

```

```

1-DRD X-LURD Y-URD
1-DRD Y-URD X-LURD

```

```

12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 7 Steps) .... 2
--Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 176

```

```

X-LURD 1-DR Y-U - Not Sig (5)
X-LURD 4-UR Y-U - Not Sig (5)

```

```

12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 12 Steps) .. 1
---Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,246

```

1-DRD X-LURD Y-ULURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 13 Steps) .. 1
---Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,724

```

1-DRD X-LURD Y-LULURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 11 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 2
Y-5-- : Positions evaluated ..... 6,551

```

1-DRD X-LURD Y-RURD  
1-DRD Y-RURD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 10 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 1,519

```

1-DRD X-LURD Y-URD  
1-DRD Y-URD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 12 Steps) .. 1
---Y- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,852

```

1-DRD X-LURD Y-ULURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 13 Steps) .. 1
---Y- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 2,625

```

1-DRD X-LURD Y-LULURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 11 Steps) .. 2
Y---- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,578

```

1-DRD X-LURD Y-RURD  
1-DRD Y-RURD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 10 Steps) .. 2
-Y--- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,254

```

1-DRD X-LURD Y-URD  
1-DRD Y-URD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 7 Steps) .... 2
--Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 210

```

X-LURD 1-DR Y-U - Not Sig (5)  
X-LURD 4-UR Y-U - Not Sig (5)

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 12 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 2,308

```

1-DRD X-LURD Y-ULURD  
1-DRD Y-ULURD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 13 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 5,135

```

1-DRD X-LURD Y-LULURD  
1-DRD Y-LULURD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 11 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 2
Y-5-- : Positions evaluated ..... 6,314

```

1-DRD X-LURD Y-RURD  
1-DRD Y-RURD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 10 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 1,621

```

1-DRD X-LURD Y-URD  
1-DRD Y-URD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 12 Steps) .. 2
---Y- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 2,356

```

1-DRD X-LURD Y-ULURD  
1-DRD Y-ULURD X-LURD

```

12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 13 Steps) .. 2
----- : Other solutions (3 Moves) ..... 2
--5-Y : Positions evaluated ..... 5,231

```

1-DRD X-LURD Y-LULURD  
1-DRD Y-LULURD X-LURD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) ... 2
XY--- : Other solutions (3 Moves) ..... 2
--5-- : Positions evaluated ..... 764

```

4-URD X-URD Y-URD  
4-URD Y-URD X-URD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) ... 2
X-Y-- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 513

```

X-RURD 1-DR Y-U - Not Sig (5)  
X-RURD 4-UR Y-U - Not Sig (5)

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
X--Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 3,766

```

1-DRD X-RURD Y-ULURD  
1-DRD Y-ULURD X-RURD

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 13 Steps) .. 2
X--Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 3,942

```

1-DRD X-RURD Y-LULURD  
1-DRD Y-LULURD X-RURD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) ... 1
X---- : Other solutions (3 Moves) ..... 8
Y-5-- : Positions evaluated ..... 1,610

```

4-URD X-URD Y-URD - Not Sig (2)

```

-----
12--- : Problem No. 1
---3- :
4--X- : Solutions (3 Moves, 9 Steps) ... 2
X--- : Other solutions (3 Moves) ..... 4
-Y5-- : Positions evaluated ..... 1,052

```

4-URD X-URD Y-URD  
4-URD Y-URD X-URD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
X---- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 2,233

```

1-DRD X-RURD Y-ULURD  
1-DRD Y-ULURD X-RURD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 13 Steps) .. 2
X--- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 2,657

```

1-DRD X-RURD Y-LULURD  
1-DRD Y-LULURD X-RURD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 6 Steps) ... 2
-X-Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 160

```

X-URD 1-DR Y-U - Not Sig (5)  
X-URD 4-UR Y-U - Not Sig (5)

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 11 Steps) .. 2
-X-Y- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 2,503

```

1-DRD X-URD Y-ULURD  
1-DRD Y-ULURD X-URD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
-X--Y : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 4,651

```

1-DRD X-URD Y-LULURD  
1-DRD Y-LULURD X-URD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) ... 2
-X--- : Other solutions (3 Moves) ..... 3
Y-5-- : Positions evaluated ..... 3,614

```

4-URD X-URD Y-URD  
4-URD Y-URD X-URD

```

-----
12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) ... 2
-X--- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 526

```

1-DRD X-URD Y-URD  
4-URD X-URD Y-URD

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 11 Steps) .. 2
--X-- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,827

```

```

1-DRD X-URD Y-ULURD
1-DRD Y-ULURD X-URD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
--X-- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 2,490

```

```

1-DRD X-URD Y-LULURD
1-DRD Y-LULURD X-URD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 8 Steps) .... 2
--XY- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 260

```

```

Y-ULURD 1-DR X-U - Not Sig (5)
Y-ULURD 4-UR X-U - Not Sig (5)

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) .... 2
--X-Y : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 6,727

```

```

Y-LULURD 1-DR X-U - Not Sig (5)
Y-LULURD 4-UR X-U - Not Sig (5)

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 7 Steps) .... 2
--X-- : Other solutions (3 Moves) ..... 2
Y-5-- : Positions evaluated ..... 1,898

```

```

Y-RURD 1-DR X-U
Y-RURD 4-UR X-U

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 6 Steps) .... 2
--X-- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 182

```

```

Y-URD 1-DR X-U - Not Sig (5)
Y-URD 4-UR X-U - Not Sig (5)

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 8 Steps) .... 2
--X-- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 260

```

```

Y-ULURD 1-DR X-U - Not Sig (5)
Y-ULURD 4-UR X-U - Not Sig (5)

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) .... 2
--X-- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 363

```

```

Y-LULURD 1-DR X-U
Y-LULURD 4-UR X-U

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 14 Steps) .. 1
--XY- : Other solutions (3 Moves) ..... 0
--5-- : Positions evaluated ..... 1,631

```

```

1-DRD X-ULURD Y-LULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
--X- : Other solutions (3 Moves) ..... 2
Y-5-- : Positions evaluated ..... 10,028

```

```

1-DRD X-ULURD Y-RURD
1-DRD Y-RURD X-ULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 11 Steps) .. 2
--X- : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 2,474

```

```

1-DRD X-ULURD Y-URD
1-DRD Y-URD X-ULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 13 Steps) .. 1
--X- : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 1,530

```

```

1-DRD X-ULURD Y-ULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 14 Steps) .. 1
--X- : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 2,537

```

```

1-DRD X-ULURD Y-LULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 13 Steps) .. 2
--X- : Other solutions (3 Moves) ..... 2
Y-5-- : Positions evaluated ..... 13,085

```

```

1-DRD X-LULURD Y-RURD
1-DRD Y-RURD X-LULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
---X : Other solutions (3 Moves) ..... 0
-Y5-- : Positions evaluated ..... 5,668

```

```

1-DRD X-LULURD Y-URD
1-DRD Y-URD X-LULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 14 Steps) .. 2
---X : Other solutions (3 Moves) ..... 0
--5Y- : Positions evaluated ..... 2,046

```

```

1-DRD X-LULURD Y-LULURD
1-DRD Y-LULURD X-LULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 15 Steps) .. 2
---X : Other solutions (3 Moves) ..... 0
--5-Y : Positions evaluated ..... 2,568

```

```

1-DRD X-LULURD Y-LULURD
1-DRD Y-LULURD X-LULURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 9 Steps) .... 2
----- : Other solutions (3 Moves) ..... 4
XY5-- : Positions evaluated ..... 4,060

```

```

4-URD X-URD Y-URD
4-URD Y-URD X-URD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
----- : Other solutions (3 Moves) ..... 2
X-5Y- : Positions evaluated ..... 8,439

```

```

1-DRD X-RURD Y-ULURD
1-DRD Y-ULURD X-RURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 13 Steps) .. 2
----- : Other solutions (3 Moves) ..... 2
X-5-Y : Positions evaluated ..... 11,481

```

```

1-DRD X-RURD Y-LULURD
1-DRD Y-LULURD X-RURD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 11 Steps) .. 2
----- : Other solutions (3 Moves) ..... 0
-X5Y- : Positions evaluated ..... 2,227

```

```

1-DRD X-URD Y-ULURD
1-DRD Y-ULURD X-URD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 12 Steps) .. 2
----- : Other solutions (3 Moves) ..... 0
-X5-Y : Positions evaluated ..... 3,460

```

```

1-DRD X-URD Y-LULURD
1-DRD Y-LULURD X-URD

```

```

12--- : Problem No. 1
---3- :
4---- : Solutions (3 Moves, 14 Steps) .. 1
----- : Other solutions (3 Moves) ..... 0
--SXY : Positions evaluated ..... 2,012

```

```

1-DRD X-ULURD Y-LULURD

```

## Figure 5 - Problem No. 2

```

Configurations ..... 190
Configurations with solutions ..... 156
  With all pieces significant ..... 155
  With insignificant pieces ..... 1

```

```

Most moves for minimum solution ..... 9
Most steps for minimum solution ..... 15
Most solutions ..... 8

```

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 3     | 24        | 5        | 12  |
| 4     | 80        | 5        | 15  |
| 5     | 26        | 6        | 14  |
| 6     | 15        | 7        | 10  |
| 7     | 9         | 8        | 14  |
| 8     | 1         | 10       | 10  |
| 9     | 1         | 10       | 10  |

```

1X2Y- : Problem No. 2

```

```

----- :
----- : Solutions (6 Moves, 9 Steps) ... 3
---3- : Other solutions (6 Moves) ..... 6
-4--- : Positions evaluated ..... 1,762

```

```

X-DRU 2-L Y-L 2-DR X-D Y-D
X-DR 2-L 3-U Y-LD 4-UR X-U
X-DR 3-U 2-L Y-LD 4-UR X-U

```

```

1X2-Y : Problem No. 2

```

```

----- :
----- : Solutions (6 Moves, 9 Steps) ... 1
---3- : Other solutions (6 Moves) ..... 7
-4--- : Positions evaluated ..... 4,253

```

```

X-DRU 2-L Y-L 2-DR X-D Y-D

```

```

1X2-- : Problem No. 2
Y---- :
----- : Solutions (4 Moves, 11 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 491

X-DRU Y-RDRU 1-RDR X-D
X-DRU Y-RDRU 2-LDR X-D
-----
1X2-- : Problem No. 2
Y---- :
----- : Solutions (4 Moves, 10 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 135

Y-DRU X-DRU 1-RDR Y-D
Y-DRU X-DRU 2-LDR Y-D
-----
1X2-- : Problem No. 2
--Y-- :
----- : Solutions (3 Moves, 7 Steps) .... 2
---3- : Other solutions (3 Moves) ..... 0
-4--- : Positions evaluated ..... 66

X-DRU 1-RDR Y-D
X-DRU 2-LDR Y-D
-----
1X2-- : Problem No. 2
--Y-- :
----- : Solutions (6 Moves, 9 Steps) ... 4
---3- : Other solutions (6 Moves) ..... 6
-4--- : Positions evaluated ..... 1,250

X-D 1-R 3-L X-URD 4-U Y-LD
X-D 2-L 3-L X-URD 4-U Y-LD
X-D 3-L 1-R X-URD 4-U Y-LD
X-D 3-L 2-L X-URD 4-U Y-LD
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (5 Moves, 14 Steps) .. 1
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 628

X-D 1-RD X-RURDL 4-URU Y-LDL
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 716

X-DRU Y-URDRU 1-RDR X-D
X-DRU Y-URDRU 2-LDR X-D
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (4 Moves, 10 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 442

Y-DRU X-DRU 1-RDR Y-D
Y-DRU X-DRU 2-LDR Y-D
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (6 Moves, 9 Steps) .... 6
---3- : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 186

X-D 1-RD Y-L X-RU 1-DR X-D
X-D 1-RD Y-L X-RU 4-UR X-D
X-D 1-RD X-RU Y-L 1-DR X-D
X-D 1-RD X-RU Y-L 4-UR X-D
X-D 1-RD X-RU 4-UR X-D Y-L
X-D 1-RD X-RU 4-UR Y-L X-D
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (6 Moves, 9 Steps) .... 6
---3- : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 251

X-D 1-RD Y-L X-RU 1-DR X-D
X-D 1-RD Y-L X-RU 4-UR X-D
X-D 1-RD X-RU Y-L 1-DR X-D
X-D 1-RD X-RU Y-L 4-UR X-D
X-D 1-RD X-RU 4-UR X-D Y-L
X-D 1-RD X-RU 4-UR Y-L X-D
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (4 Moves, 9 Steps) .... 2
Y--3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 501

Y-RU X-DRU 1-RDR Y-D
Y-RU X-DRU 2-LDR Y-D
-----
1X2-- : Problem No. 2
----Y :
----- : Solutions (4 Moves, 8 Steps) .... 2
--Y3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 233

Y-U X-DRU 1-RDR Y-D
Y-U X-DRU 2-LDR Y-D
-----

```

```

1X2-- : Problem No. 2
----- :
----- : Solutions (6 Moves, 10 Steps) .. 3
---3Y : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 405

X-DRU 1-RD 3-L X-D 3-U Y-LU
X-D 3-LU X-R 1-RD X-LU Y-LU
X-D 3-LU X-R 2-LD X-LU Y-LU
-----
1X2-- : Problem No. 2
----- :
----- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 444

X-DRU Y-URDRU 1-RDR X-D
X-DRU Y-URDRU 2-LDR X-D
-----
1X2-- : Problem No. 2
----- :
----- : Solutions (4 Moves, 8 Steps) .... 4
---3- : Other solutions (4 Moves) ..... 0
-4Y-- : Positions evaluated ..... 269

X-DRU Y-U 1-RDR X-D
X-DRU Y-U 2-LDR X-D
Y-U X-DRU 1-RDR Y-D
Y-U X-DRU 2-LDR Y-D
-----
1X2-- : Problem No. 2
----- :
----- : Solutions (4 Moves, 9 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 555

X-DRU Y-LU 1-RDR X-D
X-DRU Y-LU 2-LDR X-D
Y-LU X-DRU 1-RDR Y-D
Y-LU X-DRU 2-LDR Y-D
-----
1X2-- : Problem No. 2
----- :
----- : Solutions (4 Moves, 9 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 555

X-DRU Y-LU 1-RDR X-D
X-DRU Y-LU 2-LDR X-D
Y-LU X-DRU 1-RDR Y-D
Y-LU X-DRU 2-LDR Y-D
-----
1-2XY : Problem No. 2
----- :
----- : Solutions (5 Moves, 13 Steps) .. 1
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 3,956

2-L X-L 2-DRU X-LDRU Y-LDRU
-----
1-2X- : Problem No. 2
Y---- :
----- : Solutions (5 Moves, 13 Steps) .. 2
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 1,381

2-L X-L 2-DRU X-LDRU Y-RDRU
2-L X-L 2-DRU Y-RDRU X-LDRU
-----
1-2X- : Problem No. 2
--Y-- :
----- : Solutions (6 Moves, 9 Steps) ... 5
---3- : Other solutions (6 Moves) ..... 6
-4--- : Positions evaluated ..... 2,689

Y-DRU 2-L X-L 2-DR Y-D X-D
Y-DR 2-L 3-U X-LD 4-UR Y-U
Y-DR 3-U 2-L X-LD 4-UR Y-U
2-L X-L Y-DRU 2-DR Y-D X-D
2-L Y-DR 3-U X-LD 4-UR Y-U
-----
1-2X- : Problem No. 2
--Y-- :
----- : Solutions (5 Moves, 6 Steps) ... 1
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 214

2-L X-L 2-DR Y-D X-D
-----
1-2X- : Problem No. 2
--Y-- :
----- : Solutions (7 Moves, 9 Steps) ... 7
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 2,314

2-L X-L 2-DR 1-R X-D 4-U Y-LD
2-L X-L 2-DR 1-R 4-U X-D Y-LD
2-L X-L 2-DR 1-R 4-U Y-LD X-D
2-L X-L 2-D 1-RD Y-DL 2-R X-D
2-L X-L 2-D 1-RD Y-DL 3-L X-D
2-L X-L 2-D 1-RD 2-R X-D Y-DL
2-L X-L 2-D 1-RD 2-R Y-DL X-D
-----
1-2X- : Problem No. 2
--Y-- :
----- : Solutions (7 Moves, 9 Steps) ... 3
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 901

2-L X-L 2-DR 1-R X-D 4-U Y-LD
2-L X-L 2-DR 1-R 4-U X-D Y-LD
2-L X-L 2-DR 1-R 4-U Y-LD X-D
-----
1-2X- : Problem No. 2
----- :
----- : Solutions (4 Moves, 14 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,548

X-DLDRU Y-URDRU 1-RDR X-D
X-DLDRU Y-URDRU 2-LDR X-D
-----

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (4 Moves, 9 Steps) ... 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 2,110

```

```

X-DL Y-DRU 1-RDR Y-D
X-DL Y-DRU 2-LDR Y-D

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (7 Moves, 8 Steps) ... 8
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 2,259

```

```

2-L X-L 2-D 1-RD Y-L 2-R X-D
2-L X-L 2-D 1-RD Y-L 3-L X-D
2-L X-L 2-D 1-RD 2-R X-D Y-L
2-L X-L 2-D 1-RD 2-R Y-L X-D
2-L X-L 2-D 1-RD 3-L X-D Y-L
2-L X-L 2-D 1-RD 3-L Y-L X-D
2-L X-L 2-D 3-L 1-RD X-D Y-L
2-L X-L 2-D 3-L 1-RD Y-L X-D

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (7 Moves, 8 Steps) ... 8
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 427

```

```

2-L X-L 2-D 1-RD Y-L 2-R X-D
2-L X-L 2-D 1-RD Y-L 3-L X-D
2-L X-L 2-D 1-RD 2-R X-D Y-L
2-L X-L 2-D 1-RD 2-R Y-L X-D
2-L X-L 2-D 1-RD 3-L X-D Y-L
2-L X-L 2-D 1-RD 3-L Y-L X-D
2-L X-L 2-D 3-L 1-RD X-D Y-L
2-L X-L 2-D 3-L 1-RD Y-L X-D

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (5 Moves, 11 Steps) ... 2
Y--3- : Other solutions (5 Moves) ..... 2
-4--- : Positions evaluated ..... 3,266

```

```

2-L X-L 2-DRU X-LDRU Y-RU
2-L X-L 2-DRU Y-RU X-LDRU

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (5 Moves, 9 Steps) ... 6
Y--3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 1,781

```

```

1-RD X-DL Y-RU 1-DR Y-D
1-RD X-DL Y-RU 4-UR Y-D
1-RD Y-RU X-DL 1-DR Y-D
1-RD Y-RU X-DL 4-UR Y-D
1-RD Y-RU 4-UR X-DL Y-D
1-RD Y-RU 4-UR Y-D X-DL

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (5 Moves, 7 Steps) ... 2
Y--3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 957

```

```

2-L 3-U X-LD 4-UR Y-U
3-U 2-L X-LD 4-UR Y-U

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (9 Moves, 10 Steps) ... 4
---3Y : Other solutions (9 Moves) ..... 0
-4--- : Positions evaluated ..... 2,576

```

```

2-L 3-U X-L 2-D Y-L 1-R X-D 2-UR Y-U
2-L 3-U X-L 2-D 1-R Y-L X-D 2-UR Y-U
3-U 2-L X-L 2-D Y-L 1-R X-D 2-UR Y-U
3-U 2-L X-L 2-D 1-R Y-L X-D 2-UR Y-U

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (5 Moves, 14 Steps) ... 2
---3- : Other solutions (5 Moves) ..... 0
Y4--- : Positions evaluated ..... 1,983

```

```

2-L X-L 2-DRU X-LDRU Y-URDRU
2-L X-L 2-DRU Y-URDRU X-LDRU

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (5 Moves, 10 Steps) ... 2
---3- : Other solutions (5 Moves) ..... 0
-4Y-- : Positions evaluated ..... 1,169

```

```

2-L X-L 2-DRU X-LDRU Y-U
2-L X-L 2-DRU Y-U X-LDRU

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (4 Moves, 9 Steps) ... 1
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,689

```

```

1-RD 3-LU X-DLU Y-LU

```

```

1-2X- : Problem No. 2
-----
--Y--- : Solutions (5 Moves, 11 Steps) ... 2
---3- : Other solutions (5 Moves) ..... 0
-4--Y : Positions evaluated ..... 2,216

```

```

2-L X-L 2-DRU X-LDRU Y-LU
2-L X-L 2-DRU Y-LU X-LDRU

```

```

1-2-X : Problem No. 2
-----
Y----- : Solutions (5 Moves, 13 Steps) ... 2
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 1,759

```

```

2-L X-L 2-DRU X-LDRU Y-RDRU
2-L X-L 2-DRU Y-RDRU X-LDRU

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (6 Moves, 9 Steps) ... 2
---3- : Other solutions (6 Moves) ..... 6
-4--- : Positions evaluated ..... 7,174

```

```

Y-DRU 2-L X-L 2-DR Y-D X-D
2-L X-L Y-DRU 2-DR Y-D X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (5 Moves, 6 Steps) ... 1
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 432

```

```

2-L X-L 2-DR Y-D X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (7 Moves, 9 Steps) ... 7
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 4,522

```

```

2-L X-L 2-DR 1-R X-D 4-U Y-LD
2-L X-L 2-DR 1-R 4-U X-D Y-LD
2-L X-L 2-DR 1-R 4-U Y-LD X-D
2-L X-L 2-D 1-RD Y-DL 2-R X-D
2-L X-L 2-D 1-RD Y-DL 3-L X-D
2-L X-L 2-D 1-RD 2-R X-D Y-DL
2-L X-L 2-D 1-RD 2-R Y-DL X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (7 Moves, 9 Steps) ... 3
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 1,822

```

```

2-L X-L 2-DR 1-R X-D 4-U Y-LD
2-L X-L 2-DR 1-R 4-U X-D Y-LD
2-L X-L 2-DR 1-R 4-U Y-LD X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (4 Moves, 15 Steps) ... 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,960

```

```

X-LDLDRU Y-URDRU 1-RDR X-D
X-LDLDRU Y-URDRU 2-LDR X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (4 Moves, 7 Steps) ... 2
---3- : Other solutions (4 Moves) ..... 2
-4--- : Positions evaluated ..... 3,532

```

```

2-RD 4-U Y-R X-LDR
4-U 2-RD Y-R X-LDR

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (7 Moves, 8 Steps) ... 8
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 2,848

```

```

2-L X-L 2-D 1-RD Y-L 2-R X-D
2-L X-L 2-D 1-RD Y-L 3-L X-D
2-L X-L 2-D 1-RD 2-R X-D Y-L
2-L X-L 2-D 1-RD 2-R Y-L X-D
2-L X-L 2-D 1-RD 3-L X-D Y-L
2-L X-L 2-D 1-RD 3-L Y-L X-D
2-L X-L 2-D 3-L 1-RD X-D Y-L
2-L X-L 2-D 3-L 1-RD Y-L X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (7 Moves, 8 Steps) ... 8
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 3,274

```

```

2-L X-L 2-D 1-RD Y-L 2-R X-D
2-L X-L 2-D 1-RD Y-L 3-L X-D
2-L X-L 2-D 1-RD 2-R X-D Y-L
2-L X-L 2-D 1-RD 2-R Y-L X-D
2-L X-L 2-D 1-RD 3-L X-D Y-L
2-L X-L 2-D 1-RD 3-L Y-L X-D
2-L X-L 2-D 3-L 1-RD X-D Y-L
2-L X-L 2-D 3-L 1-RD Y-L X-D

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (5 Moves, 11 Steps) ... 2
Y--3- : Other solutions (5 Moves) ..... 2
-4--- : Positions evaluated ..... 6,797

```

```

2-L X-L 2-DRU X-LDRU Y-RU
2-L X-L 2-DRU Y-RU X-LDRU

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (5 Moves, 10 Steps) ... 6
Y--3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 3,770

```

```

1-RD X-LDL Y-RU 1-DR Y-D
1-RD X-LDL Y-RU 4-UR Y-D
1-RD Y-RU X-LDL 1-DR Y-D
1-RD Y-RU X-LDL 4-UR Y-D
1-RD Y-RU 4-UR X-LDL Y-D
1-RD Y-RU 4-UR Y-D X-LDL

```

```

1-2-X : Problem No. 2
--Y--- :
----- : Solutions (6 Moves, 7 Steps) ... 2
Y--3- : Other solutions (6 Moves) ..... 3
-4--- : Positions evaluated ..... 2,288

```

```

Y-U 2-L X-L 2-DR Y-D X-D
2-L X-L Y-U 2-DR Y-D X-D

```



```

1-2-X : Problem No. 2
-----
----- : Solutions (8 Moves, 10 Steps) .. 6
---3Y : Other solutions (8 Moves) ..... 0
-4--- : Positions evaluated ..... 6,902

```

```

Y-U 2-L X-L 2-DR 1-R X-D 4-U Y-LD
Y-U 2-L X-L 2-DR 1-R 4-U X-D Y-LD
Y-U 2-L X-L 2-DR 1-R 4-U Y-LD X-D
2-L Y-U X-L 2-DR 1-R X-D 4-U Y-LD
2-L Y-U X-L 2-DR 1-R 4-U X-D Y-LD
2-L Y-U X-L 2-DR 1-R 4-U Y-LD X-D

```

```

1-2-X : Problem No. 2
-----
----- : Solutions (5 Moves, 14 Steps) .. 2
---3- : Other solutions (5 Moves) ..... 0
Y4--- : Positions evaluated ..... 2,765

```

```

2-L X-L 2-DRU X-LDRU Y-URDRU
2-L X-L 2-DRU Y-URDRU X-LDRU

```

```

1-2-X : Problem No. 2
-----
----- : Solutions (5 Moves, 10 Steps) .. 2
---3- : Other solutions (5 Moves) ..... 0
-4Y-- : Positions evaluated ..... 2,533

```

```

2-L X-L 2-DRU X-LDRU Y-U
2-L X-L 2-DRU Y-U X-LDRU

```

```

1-2-X : Problem No. 2
-----
----- : Solutions (4 Moves, 10 Steps) .. 1
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 3,149

```

```

1-RD 3-LU X-LDLU Y-LU

```

```

1-2-X : Problem No. 2
-----
----- : Solutions (4 Moves, 9 Steps) .... 1
---3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 4,529

```

```

1-RD 3-LU X-DLU Y-LU

```

```

1-2-- : Problem No. 2
XY--- :
----- : Solutions (4 Moves, 11 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 384

```

```

Y-DRU X-RDRU 1-RDR Y-D
Y-DRU X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X-Y-- :
----- : Solutions (3 Moves, 8 Steps) .... 2
---3- : Other solutions (3 Moves) ..... 0
-4--- : Positions evaluated ..... 277

```

```

X-RDRU 1-RDR Y-D
X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X--Y- :
----- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,003

```

```

Y-LDRU X-RDRU 1-RDR Y-D
Y-LDRU X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X--Y- :
----- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 810

```

```

Y-LDRU X-RDRU 1-RDR Y-D
Y-LDRU X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X---- :
Y--- : Solutions (7 Moves, 14 Steps) .. 2
---3- : Other solutions (7 Moves) ..... 0
-4--- : Positions evaluated ..... 131

```

```

1-RDRU X-RDR 1-D Y-RD 1-U X-U Y-RU
1-RDRU X-RDR 1-D Y-R 1-U X-U Y-DRU

```

```

1-2-- : Problem No. 2
X---- :
-Y--- : Solutions (4 Moves, 11 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 672

```

```

Y-DRU X-RDRU 1-RDR Y-D
Y-DRU X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X---- :
---Y- : Solutions ..... None
---3- :
-4--- : Positions evaluated ..... 78

```

```

1-2-- : Problem No. 2
X---- :
---Y : Solutions ..... None
---3- :
-4--- : Positions evaluated ..... 117

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (3 Moves, 10 Steps) .. 2
Y--3- : Other solutions (3 Moves) ..... 0
-4--- : Positions evaluated ..... 1,247

```

```

1-RDRU X-RDRU Y-RU
1-RDRU Y-RU X-RDRU

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (4 Moves, 10 Steps) .. 2
-Y-3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 582

```

```

Y-RU X-RDRU 1-RDR Y-D
Y-RU X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (4 Moves, 9 Steps) .... 2
--Y3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 825

```

```

Y-U X-RDRU 1-RDR Y-D
Y-U X-RDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions ..... None
---3Y :
-4--- : Positions evaluated ..... 319

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 391

```

```

X-DRU Y-URDRU 1-RDR X-D
X-DRU Y-URDRU 2-LDR X-D

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (3 Moves, 9 Steps) .... 2
---3- : Other solutions (3 Moves) ..... 0
-4Y-- : Positions evaluated ..... 1,165

```

```

1-RDRU X-RDRU Y-U
1-RDRU Y-U X-RDRU

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (3 Moves, 10 Steps) .. 2
---3- : Other solutions (3 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,307

```

```

1-RDRU X-RDRU Y-LU
1-RDRU Y-LU X-RDRU

```

```

1-2-- : Problem No. 2
X---- :
----- : Solutions (3 Moves, 10 Steps) .. 2
---3- : Other solutions (3 Moves) ..... 0
-4--Y : Positions evaluated ..... 1,307

```

```

1-RDRU X-RDRU Y-LU
1-RDRU Y-LU X-RDRU

```

```

1-2-- : Problem No. 2
-X-Y-- :
----- : Solutions (3 Moves, 7 Steps) .... 2
---3- : Other solutions (3 Moves) ..... 0
-4--- : Positions evaluated ..... 96

```

```

X-DRU 1-RDR Y-D
X-DRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
-X-Y- :
----- : Solutions (4 Moves, 8 Steps) .... 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,748

```

```

Y-L X-DRU 1-RDR Y-D
Y-L X-DRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
-X--Y :
----- : Solutions (4 Moves, 8 Steps) .... 2
---3- : Other solutions (4 Moves) ..... 1
-4--- : Positions evaluated ..... 1,104

```

```

Y-L X-DRU 1-RDR Y-D
Y-L X-DRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X---- :
Y--- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 758

```

```

X-DRU Y-URDRU 1-RDR X-D
X-DRU Y-URDRU 2-LDR X-D

```

```

1-2-- : Problem No. 2
X---- :
-Y--- : Solutions (4 Moves, 10 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 266

```

```

Y-DRU X-DRU 1-RDR Y-D
Y-DRU X-DRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
X---- :
---Y- : Solutions (6 Moves, 9 Steps) .... 6
---3- : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 275

```

```

X-D 1-RD Y-L X-RU 1-DR X-D
X-D 1-RD Y-L X-RU 4-UR X-D
X-D 1-RD X-RU Y-L 1-DR X-D
X-D 1-RD X-RU Y-L 4-UR X-D
X-D 1-RD X-RU 4-UR X-D Y-L
X-D 1-RD X-RU 4-UR Y-L X-D

```

1-2-- : Problem No. 2  
 --X-- :  
 ----Y : Solutions (6 Moves, 9 Steps) ... 6  
 ---3- : Other solutions (6 Moves) ..... 0  
 -4--- : Positions evaluated ..... 369

X-D 1-RD Y-L X-RU 1-DR X-D  
 X-D 1-RD Y-L X-RU 4-UR X-D  
 X-D 1-RD X-RU Y-L 1-DR X-D  
 X-D 1-RD X-RU Y-L 4-UR X-D  
 X-D 1-RD X-RU 4-UR X-D Y-L  
 X-D 1-RD X-RU 4-UR Y-L X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 9 Steps) ... 4  
 Y--3- : Other solutions (4 Moves) ..... 2  
 -4--- : Positions evaluated ..... 893

X-DRU Y-RU 1-RDR X-D  
 X-DRU Y-RU 2-LDR X-D  
 Y-RU X-DRU 1-RDR Y-D  
 Y-RU X-DRU 2-LDR Y-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 9 Steps) ... 2  
 -Y-3- : Other solutions (4 Moves) ..... 0  
 -4--- : Positions evaluated ..... 657

Y-RU X-DRU 1-RDR Y-D  
 Y-RU X-DRU 2-LDR Y-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 8 Steps) ... 2  
 --Y3- : Other solutions (4 Moves) ..... 0  
 -4--- : Positions evaluated ..... 293

Y-U X-DRU 1-RDR Y-D  
 Y-U X-DRU 2-LDR Y-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (6 Moves, 10 Steps) ... 3  
 ---3Y : Other solutions (6 Moves) ..... 0  
 -4--- : Positions evaluated ..... 514

X-DRU 1-RD 3-L X-D 3-U Y-LU  
 X-D 3-LU X-R 1-RD X-LU Y-LU  
 X-D 3-LU X-R 2-LD X-LU Y-LU

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 12 Steps) ... 2  
 ---3- : Other solutions (4 Moves) ..... 0  
 Y4--- : Positions evaluated ..... 460

X-DRU Y-URDRU 1-RDR X-D  
 X-DRU Y-URDRU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 8 Steps) ... 4  
 ---3- : Other solutions (4 Moves) ..... 0  
 -4Y-- : Positions evaluated ..... 364

X-DRU Y-U 1-RDR X-D  
 X-DRU Y-U 2-LDR X-D  
 Y-U X-DRU 1-RDR Y-D  
 Y-U X-DRU 2-LDR Y-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 9 Steps) ... 4  
 ---3- : Other solutions (4 Moves) ..... 0  
 -4-Y- : Positions evaluated ..... 724

X-DRU Y-LU 1-RDR X-D  
 X-DRU Y-LU 2-LDR X-D  
 Y-LU X-DRU 1-RDR Y-D  
 Y-LU X-DRU 2-LDR Y-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (4 Moves, 9 Steps) ... 4  
 ---3- : Other solutions (4 Moves) ..... 0  
 -4--Y : Positions evaluated ..... 724

X-DRU Y-LU 1-RDR X-D  
 X-DRU Y-LU 2-LDR X-D  
 Y-LU X-DRU 1-RDR Y-D  
 Y-LU X-DRU 2-LDR Y-D

1-2-- : Problem No. 2  
 --XY- :  
 ---- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 81

1-2-- : Problem No. 2  
 --X-Y :  
 ---- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 334

1-2-- : Problem No. 2  
 --X-- :  
 Y---- : Solutions (3 Moves, 9 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 -4--- : Positions evaluated ..... 416

Y-URDRU 1-RDR X-D  
 Y-URDRU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 -Y--- : Solutions (3 Moves, 7 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 -4--- : Positions evaluated ..... 204

Y-DRU 1-RDR X-D  
 Y-DRU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---Y- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 13

1-2-- : Problem No. 2  
 --X-- :  
 ---Y- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 29

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 6 Steps) ... 2  
 Y--3- : Other solutions (3 Moves) ..... 2  
 -4--- : Positions evaluated ..... 343

Y-RU 1-RDR X-D  
 Y-RU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 6 Steps) ... 2  
 -Y-3- : Other solutions (3 Moves) ..... 0  
 -4--- : Positions evaluated ..... 118

Y-RU 1-RDR X-D  
 Y-RU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 5 Steps) ... 2  
 --Y3- : Other solutions (3 Moves) ..... 0  
 -4--- : Positions evaluated ..... 91

Y-U 1-RDR X-D  
 Y-U 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (5 Moves, 7 Steps) ... 1  
 ---3Y : Other solutions (5 Moves) ..... 0  
 -4--- : Positions evaluated ..... 43

1-RD 3-L X-D 3-U Y-LU

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 9 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 Y4--- : Positions evaluated ..... 222

Y-URDRU 1-RDR X-D  
 Y-URDRU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 5 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 -4Y-- : Positions evaluated ..... 129

Y-U 1-RDR X-D  
 Y-U 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 6 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 -4-Y- : Positions evaluated ..... 145

Y-LU 1-RDR X-D  
 Y-LU 2-LDR X-D

1-2-- : Problem No. 2  
 --X-- :  
 ---- : Solutions (3 Moves, 6 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 -4--Y : Positions evaluated ..... 145

Y-LU 1-RDR X-D  
 Y-LU 2-LDR X-D

1-2-- : Problem No. 2  
 ---XY :  
 ---- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 55

1-2-- : Problem No. 2  
 ---X- :  
 Y---- : Solutions (4 Moves, 14 Steps) ... 2  
 ---3- : Other solutions (4 Moves) ..... 0  
 -4--- : Positions evaluated ..... 2,292

X-DLDRU Y-URDRU 1-RDR X-D  
 X-DLDRU Y-URDRU 2-LDR X-D

1-2-- : Problem No. 2  
 ---X- :  
 -Y--- : Solutions (3 Moves, 8 Steps) ... 2  
 ---3- : Other solutions (3 Moves) ..... 0  
 -4--- : Positions evaluated ..... 1,426

1-RDR X-DL Y-DRU  
 2-LDR X-DL Y-DRU

1-2-- : Problem No. 2  
 ---X- :  
 ---Y- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 9

1-2-- : Problem No. 2  
 ---X- :  
 ---Y- : Solutions ..... None  
 ---3- :  
 -4--- : Positions evaluated ..... 55

```

1-2-- : Problem No. 2
---X- :
----- : Solutions (5 Moves, 13 Steps) .. 2
Y--3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 2,631

Y-U X-LDRU Y-RDRU 1-RDR X-D
Y-U X-LDRU Y-RDRU 2-LDR X-D
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (5 Moves, 8 Steps) ... 4
-Y-3- : Other solutions (5 Moves) ..... 6
-4--- : Positions evaluated ..... 1,214

1-R 3-L Y-URD 4-U X-LD
2-L 3-L Y-URD 4-U X-LD
3-L 1-R Y-URD 4-U X-LD
3-L 2-L Y-URD 4-U X-LD
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
--Y3- :
-4--- : Positions evaluated ..... 319
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
---3Y :
-4--- : Positions evaluated ..... 103
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (5 Moves, 13 Steps) .. 2
---3- : Other solutions (5 Moves) ..... 0
Y4--- : Positions evaluated ..... 1,329

Y-U X-LDRU Y-RDRU 1-RDR X-D
Y-U X-LDRU Y-RDRU 2-LDR X-D
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
---3- :
-4Y-- : Positions evaluated ..... 419
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (4 Moves, 9 Steps) ... 1
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,175

1-RD 3-LU X-DLU Y-LU
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
---3- :
-4--Y : Positions evaluated ..... 1,057
-----
1-2-- : Problem No. 2
---X- :
Y---- : Solutions (5 Moves, 13 Steps) .. 2
---3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 1,721

Y-U X-LDRU Y-RDRU 1-RDR X-D
Y-U X-LDRU Y-RDRU 2-LDR X-D
-----
1-2-- : Problem No. 2
---X- :
-Y--- : Solutions (3 Moves, 12 Steps) .. 1
---3- : Other solutions (3 Moves) ..... 0
-4--- : Positions evaluated ..... 1,347

1-RDRDLU X-LDL Y-DRU
-----
1-2-- : Problem No. 2
---X- :
---Y- : Solutions ..... None
---3- :
-4--- : Positions evaluated ..... 9
-----
1-2-- : Problem No. 2
---X- :
---Y- : Solutions ..... None
---3- :
-4--- : Positions evaluated ..... 23
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (5 Moves, 13 Steps) .. 2
Y--3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 1,674

Y-U X-LDRU Y-RDRU 1-RDR X-D
Y-U X-LDRU Y-RDRU 2-LDR X-D
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (4 Moves, 13 Steps) .. 1
-Y-3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 719

1-RD Y-RURDL 4-URU X-LDL
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
--Y3- :
-4--- : Positions evaluated ..... 484
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
---3Y :
-4--- : Positions evaluated ..... 384

```

```

1-2-- : Problem No. 2
---X- :
----- : Solutions (5 Moves, 13 Steps) .. 2
---3- : Other solutions (5 Moves) ..... 0
Y4--- : Positions evaluated ..... 850

Y-U X-LDRU Y-RDRU 1-RDR X-D
Y-U X-LDRU Y-RDRU 2-LDR X-D
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions ..... None
---3- :
-4Y-- : Positions evaluated ..... 510
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (4 Moves, 10 Steps) .. 1
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,481

1-RD 3-LU X-LDLU Y-LU
-----
1-2-- : Problem No. 2
---X- :
----- : Solutions (4 Moves, 9 Steps) ... 1
---3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 1,199

1-RD 3-LU X-DLU Y-LU
-----
1-2-- : Problem No. 2
---X- :
XY--- : Solutions (4 Moves, 12 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,475

Y-DRU X-URDRU 1-RDR Y-D
Y-DRU X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X--Y- : Solutions (4 Moves, 13 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,030

Y-LDRU X-URDRU 1-RDR Y-D
Y-LDRU X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X--Y- : Solutions (4 Moves, 13 Steps) .. 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,081

Y-LDRU X-URDRU 1-RDR Y-D
Y-LDRU X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions (4 Moves, 11 Steps) .. 4
Y--3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,507

X-U 1-RDRU X-RDRU Y-RU
X-U 1-RDRU Y-RU X-RDRU
Y-RU X-URDRU 1-RDR Y-D
Y-RU X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions (4 Moves, 11 Steps) .. 2
-Y-3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,144

Y-RU X-URDRU 1-RDR Y-D
Y-RU X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions (4 Moves, 10 Steps) .. 2
--Y3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,298

Y-U X-URDRU 1-RDR Y-D
Y-U X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions ..... None
---3Y :
-4--- : Positions evaluated ..... 389
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions (4 Moves, 12 Steps) .. 4
---3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 1,531

X-DRU Y-URDRU 1-RDR X-D
X-DRU Y-URDRU 2-LDR X-D
Y-URU X-URDRU 1-RDR Y-D
Y-URU X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions (4 Moves, 10 Steps) .. 4
---3- : Other solutions (4 Moves) ..... 0
-4Y-- : Positions evaluated ..... 1,654

X-U 1-RDRU X-RDRU Y-U
X-U 1-RDRU Y-U X-RDRU
Y-U X-URDRU 1-RDR Y-D
Y-U X-URDRU 2-LDR Y-D
-----
1-2-- : Problem No. 2
---X- :
X---- : Solutions (4 Moves, 11 Steps) .. 4
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,920

X-U 1-RDRU X-RDRU Y-LU
X-U 1-RDRU Y-LU X-RDRU
Y-LU X-URDRU 1-RDR Y-D
Y-LU X-URDRU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
-----
X--- : Solutions (4 Moves, 11 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 1,920

```

```

X-U 1-RDRU X-RDRU Y-LU
X-U 1-RDRU Y-LU X-RDRU
Y-LU X-URDRU 1-RDR Y-D
Y-LU X-URDRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
-X-Y- : Solutions (4 Moves, 5 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 876

```

```

1-RD X-R 4-U Y-L - Not Sig (3)
2-LD X-R 4-U Y-L - Not Sig (3)
4-U X-R 1-RD Y-L - Not Sig (3)
4-U X-R 2-LD Y-L - Not Sig (3)

```

```

-----
1-2-- : Problem No. 2
-----
-X--Y : Solutions (4 Moves, 8 Steps) ... 2
---3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 1,010

```

```

Y-L X-DRU 1-RDR X-D
Y-L X-DRU 2-LDR X-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 9 Steps) ... 4
Y-3- : Other solutions (4 Moves) ..... 2
-4--- : Positions evaluated ..... 1,516

```

```

X-DRU Y-RU 1-RDR X-D
X-DRU Y-RU 2-LDR X-D
Y-RU X-DRU 1-RDR Y-D
Y-RU X-DRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 9 Steps) ... 2
-Y-3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 394

```

```

Y-RU X-DRU 1-RDR Y-D
Y-RU X-DRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 8 Steps) ... 2
--Y3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 520

```

```

Y-U X-DRU 1-RDR Y-D
Y-U X-DRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (6 Moves, 10 Steps) ... 3
---3Y : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 924

```

```

X-DRU 1-RD 3-L X-D 3-U Y-LU
X-D 3-LU X-R 1-RD X-LU Y-LU
X-D 3-LU X-R 2-LD X-LU Y-LU

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 12 Steps) ... 2
---3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 632

```

```

X-DRU Y-URDRU 1-RDR X-D
X-DRU Y-URDRU 2-LDR X-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 8 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4Y-- : Positions evaluated ..... 723

```

```

X-DRU Y-U 1-RDR X-D
X-DRU Y-U 2-LDR X-D
Y-U X-DRU 1-RDR Y-D
Y-U X-DRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 9 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,101

```

```

X-DRU Y-LU 1-RDR X-D
X-DRU Y-LU 2-LDR X-D
Y-LU X-DRU 1-RDR Y-D
Y-LU X-DRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
-X--- : Solutions (4 Moves, 9 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 1,101

```

```

X-DRU Y-LU 1-RDR X-D
X-DRU Y-LU 2-LDR X-D
Y-LU X-DRU 1-RDR Y-D
Y-LU X-DRU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
---XY : Solutions ..... None
---3- :
-4--- : Positions evaluated ..... 9

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
Y-3- :
-4--- : Positions evaluated ..... 378

```

```

1-2-- : Problem No. 2
-----
---X- : Solutions (5 Moves, 8 Steps) ... 6
--Y3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 188

```

```

1-RD X-L Y-RU 1-DR Y-D
1-RD X-L Y-RU 4-UR Y-D
1-RD Y-RU X-L 1-DR Y-D
1-RD Y-RU X-L 4-UR Y-D
1-RD Y-RU 4-UR Y-D X-L
1-RD Y-RU 4-UR X-L Y-D

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
--Y3- :
-4--- : Positions evaluated ..... 23

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3Y :
-4--- : Positions evaluated ..... 10

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3- :
Y4--- : Positions evaluated ..... 96

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3- :
-4Y-- : Positions evaluated ..... 29

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions (4 Moves, 9 Steps) ... 1
---3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 152

```

```

1-RD 3-LU X-DLU Y-LU

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3- :
-4--Y : Positions evaluated ..... 78

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
Y-3- :
-4--- : Positions evaluated ..... 450

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions (5 Moves, 8 Steps) ... 6
-Y-3- : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 277

```

```

1-RD X-L Y-RU 1-DR Y-D
1-RD X-L Y-RU 4-UR Y-D
1-RD Y-RU X-L 1-DR Y-D
1-RD Y-RU X-L 4-UR Y-D
1-RD Y-RU 4-UR Y-D X-L
1-RD Y-RU 4-UR X-L Y-D

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
--Y3- :
-4--- : Positions evaluated ..... 67

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3Y :
-4--- : Positions evaluated ..... 42

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3- :
Y4--- : Positions evaluated ..... 135

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3- :
-4Y-- : Positions evaluated ..... 78

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions ..... None
---3- :
-4-Y- : Positions evaluated ..... 338

```

```

-----
1-2-- : Problem No. 2
-----
---X- : Solutions (4 Moves, 9 Steps) ... 1
---3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 586

```

```

1-RD 3-LU X-DLU Y-LU

```

```

-----
1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 8 Steps) ... 2
XY-3- : Other solutions (4 Moves) ..... 2
-4--- : Positions evaluated ..... 1,158

```

```

Y-RU X-RU 1-RDR Y-D
Y-RU X-RU 2-LDR Y-D

```

```

-----
1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 7 Steps) ... 2
X-Y3- : Other solutions (4 Moves) ..... 2
-4--- : Positions evaluated ..... 1,220

```

```

Y-U X-RU 1-RDR Y-D
Y-U X-RU 2-LDR Y-D

```

```

1-2-- : Problem No. 2
-----
----- : Solutions (6 Moves, 9 Steps) ... 1
X--3Y : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 527

```

X-RU 1-RD 3-L X-D 3-U Y-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 11 Steps) ... 2
X--3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 354

```

X-RU Y-URDRU 1-RDR X-D  
X-RU Y-URDRU 2-LDR X-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (3 Moves, 7 Steps) ... 2
X--3- : Other solutions (3 Moves) ..... 0
-4Y-- : Positions evaluated ..... 743

```

1-RDRU X-RU Y-U  
1-RDRU Y-U X-RU

```

1-2-- : Problem No. 2
-----
----- : Solutions (3 Moves, 8 Steps) ... 2
X--3- : Other solutions (3 Moves) ..... 0
-4-Y- : Positions evaluated ..... 1,180

```

1-RDRU X-RU Y-LU  
1-RDRU Y-LU X-RU

```

1-2-- : Problem No. 2
-----
----- : Solutions (3 Moves, 8 Steps) ... 2
X--3- : Other solutions (3 Moves) ..... 0
-4--Y : Positions evaluated ..... 1,180

```

1-RDRU X-RU Y-LU  
1-RDRU Y-LU X-RU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 7 Steps) ... 2
-XY3- : Other solutions (4 Moves) ..... 0
-4--- : Positions evaluated ..... 164

```

Y-U X-RU 1-RDR Y-D  
Y-U X-RU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (5 Moves, 9 Steps) ... 2
-X-3Y : Other solutions (5 Moves) ..... 0
-4--- : Positions evaluated ..... 508

```

3-LU X-R 1-RD X-LU Y-LU  
3-LU X-R 2-LD X-LU Y-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 11 Steps) ... 2
-X-3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 440

```

X-RU Y-URDRU 1-RDR X-D  
X-RU Y-URDRU 2-LDR X-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 7 Steps) ... 4
-X-3- : Other solutions (4 Moves) ..... 0
-4Y-- : Positions evaluated ..... 359

```

X-RU Y-U 1-RDR X-D  
X-RU Y-U 2-LDR X-D

Y-U X-RU 1-RDR Y-D  
Y-U X-RU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 8 Steps) ... 4
-X-3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 747

```

X-RU Y-LU 1-RDR X-D  
X-RU Y-LU 2-LDR X-D

Y-LU X-RU 1-RDR Y-D  
Y-LU X-RU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 8 Steps) ... 4
-X-3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 747

```

X-RU Y-LU 1-RDR X-D  
X-RU Y-LU 2-LDR X-D

Y-LU X-RU 1-RDR Y-D  
Y-LU X-RU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (6 Moves, 8 Steps) ... 2
--X3Y : Other solutions (6 Moves) ..... 0
-4--- : Positions evaluated ..... 95

```

X-U 1-RD 3-L X-D 3-U Y-LU  
1-RD X-U 3-L X-D 3-U Y-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 10 Steps) ... 2
--X3- : Other solutions (4 Moves) ..... 0
Y4--- : Positions evaluated ..... 379

```

X-U Y-URDRU 1-RDR X-D  
X-U Y-URDRU 2-LDR X-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 6 Steps) ... 2
--X3- : Other solutions (4 Moves) ..... 0
-4Y-- : Positions evaluated ..... 114

```

X-U Y-U 1-RDR X-D  
X-U Y-U 2-LDR X-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 7 Steps) ... 2
--X3- : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 291

```

X-U Y-LU 1-RDR X-D  
X-U Y-LU 2-LDR X-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 7 Steps) ... 2
--X3- : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 291

```

X-U Y-LU 1-RDR X-D  
X-U Y-LU 2-LDR X-D

```

1-2-- : Problem No. 2
-----
----- : Solutions ..... None
---3X : Positions evaluated ..... 323

```

1-2-- : Problem No. 2

```

----- : Solutions (4 Moves, 7 Steps) ... 2
---3X : Other solutions (4 Moves) ..... 0
-4Y-- : Positions evaluated ..... 98

```

1-RD 3-LU X-LU Y-U  
1-RD 3-LU Y-U X-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 8 Steps) ... 2
---3X : Other solutions (4 Moves) ..... 0
-4-Y- : Positions evaluated ..... 181

```

1-RD 3-LU X-LU Y-LU  
1-RD 3-LU Y-LU X-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 8 Steps) ... 2
---3X : Other solutions (4 Moves) ..... 0
-4--Y : Positions evaluated ..... 181

```

1-RD 3-LU X-LU Y-LU  
1-RD 3-LU Y-LU X-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 10 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
X4Y-- : Positions evaluated ..... 1,427

```

X-U 1-RDRU X-RDRU Y-U  
X-U 1-RDRU Y-U X-RDRU

Y-U X-URDRU 1-RDR Y-D  
Y-U X-URDRU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 11 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
X4-Y- : Positions evaluated ..... 2,009

```

X-U 1-RDRU X-RDRU Y-LU  
X-U 1-RDRU Y-LU X-RDRU

Y-LU X-URDRU 1-RDR Y-D  
Y-LU X-URDRU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (4 Moves, 11 Steps) ... 4
---3- : Other solutions (4 Moves) ..... 0
X4--Y : Positions evaluated ..... 1,800

```

X-U 1-RDRU X-RDRU Y-LU  
X-U 1-RDRU Y-LU X-RDRU

Y-LU X-URDRU 1-RDR Y-D  
Y-LU X-URDRU 2-LDR Y-D

```

1-2-- : Problem No. 2
-----
----- : Solutions (3 Moves, 7 Steps) ... 1
---3- : Other solutions (3 Moves) ..... 0
-4XY- : Positions evaluated ..... 179

```

1-RDRU X-U Y-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (3 Moves, 7 Steps) ... 1
---3- : Other solutions (3 Moves) ..... 0
-4X-Y : Positions evaluated ..... 379

```

1-RDRU X-U Y-LU

```

1-2-- : Problem No. 2
-----
----- : Solutions (3 Moves, 8 Steps) ... 1
---3- : Other solutions (3 Moves) ..... 0
-4-XY : Positions evaluated ..... 307

```

1-RDRU X-LU Y-LU

## Figure 6

Configurations ..... 79  
Configurations with solutions ..... 4  
  With all pieces significant ..... 4  
  With insignificant pieces ..... 0  
  
Most moves for minimum solution ..... 8  
Most steps for minimum solution ..... 13  
Most solutions ..... 4

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 3     | 1         | 4        | 4   |
| 4     | 1         | 5        | 5   |
| 7     | 1         | 13       | 13  |
| 8     | 1         | 8        | 8   |

-----  
-1-- : Board (Problem No. 1)  
-2-3- :  
X-45- : Solutions (3 Moves, 4 Steps) ... 1  
----- : Other solutions (3 Moves) ..... 0  
----- : Positions evaluated ..... 26

2-R 4-LU X-R

-----  
1-2-- : Board (Problem No. 2)  
----- :  
--3-- : Solutions (4 Moves, 5 Steps) ... 1  
X-45- : Other solutions (4 Moves) ..... 6  
----- : Positions evaluated ..... 795

1-D 3-L 4-U X-RU

-----  
12-X- : Board (Problem No. 3)  
----- :  
--3-- : Solutions (8 Moves, 8 Steps) ... 4  
--4- : Other solutions (8 Moves) ..... 0  
5--- : Positions evaluated ..... 246

2-R X-D 3-U 2-L 1-D 4-L 2-D X-L  
2-R 3-U X-D 2-L 1-D 4-L 2-D X-L  
2-R 3-U 2-L X-D 1-D 4-L 2-D X-L  
2-R 3-U 2-L 1-D X-D 4-L 2-D X-L

-----  
123-- : Board (Problem No. 4)  
----- :  
4---- : Solutions (7 Moves, 13 Steps) ... 3  
----5 : Other solutions (7 Moves) ..... 0  
-X--- : Positions evaluated ..... 462

2-DR 1-RD 2-L 5-L 2-U 1-RUL X-URU  
2-DR 4-U 1-RD 2-LU 4-RD 1-R X-URU  
4-U 2-DR 1-RD 2-LU 4-RD 1-R X-URU

## Figure 7

Configurations ..... 82  
Configurations with solutions ..... 3  
  With all pieces significant ..... 3  
  With insignificant pieces ..... 0  
  
Most moves for minimum solution ..... 13  
Most steps for minimum solution ..... 18  
Most solutions ..... 16

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 3     | 1         | 6        | 6   |
| 4     | 1         | 5        | 5   |
| 13    | 1         | 18       | 18  |

-----  
1-- :  
-23- :  
----- : Solutions (3 Moves, 6 Steps) ... 1  
----4- : Other solutions (3 Moves) ..... 1  
--X-5- : Positions evaluated ..... 192  
--- :  
--- :

5-L 2-DR X-URD

-----  
1-- : Board (Problem No. 2)  
----- :  
--2-3- : Solutions (4 Moves, 5 Steps) ... 6  
-X-4--- : Other solutions (4 Moves) ..... 0  
----- : Positions evaluated ..... 262  
--5 :  
--- :

2-R 4-LU 5-U X-R  
2-R 5-U 4-LU X-R  
3-L 4-LU 5-U X-R  
3-L 5-U 4-LU X-R  
4-LU 2-R 5-U X-R  
4-LU 3-L 5-U X-R

-----  
123 : Board (Problem No. 3)  
--- :  
-4--X-- : Solutions (13 Moves, 18 Steps) . 16  
----- : Other solutions (13 Moves) ..... 0  
----- : Positions evaluated ..... 1,695  
--- :  
-5- :

2-D 3-D X-LUR 2-ULU X-D 2-R X-U 4-RU X-D 2-D 4-R 2-U X-U  
2-D 3-D X-LUR 2-ULU X-D 2-R X-U 4-RU X-D 2-D 3-L 2-U X-U  
2-D 3-D X-LUR 2-ULU X-D 2-R X-U 4-R X-D 2-D 1-DR 2-U X-U  
2-D 3-D X-LUR 2-ULU X-D 2-R X-U 4-R X-D 2-D 4-UR 2-U X-U  
2-D 3-D X-LUR 2-UL X-D 2-UR X-U 4-RU X-D 2-D 4-R 2-U X-U  
2-D 3-D X-LUR 2-UL X-D 2-UR X-U 4-RU X-D 2-D 3-L 2-U X-U  
2-D 3-D X-LUR 2-UL X-D 2-UR X-U 4-R X-D 2-D 1-DR 2-U X-U  
2-D 3-D X-LUR 2-UL X-D 2-UR X-U 4-R X-D 2-D 4-UR 2-U X-U  
3-D 2-D X-LUR 2-ULU X-D 2-R X-U 4-RU X-D 2-D 4-R 2-U X-U  
3-D 2-D X-LUR 2-ULU X-D 2-R X-U 4-RU X-D 2-D 3-L 2-U X-U  
3-D 2-D X-LUR 2-ULU X-D 2-R X-U 4-R X-D 2-D 1-DR 2-U X-U  
3-D 2-D X-LUR 2-ULU X-D 2-R X-U 4-R X-D 2-D 4-UR 2-U X-U  
3-D 2-D X-LUR 2-UL X-D 2-UR X-U 4-RU X-D 2-D 4-R 2-U X-U  
3-D 2-D X-LUR 2-UL X-D 2-UR X-U 4-RU X-D 2-D 3-L 2-U X-U  
3-D 2-D X-LUR 2-UL X-D 2-UR X-U 4-R X-D 2-D 1-DR 2-U X-U  
3-D 2-D X-LUR 2-UL X-D 2-UR X-U 4-R X-D 2-D 4-UR 2-U X-U

## Figure 8

Configurations ..... 2,090  
Configurations with solutions ..... 11  
  With all pieces significant ..... 11  
  With insignificant pieces ..... 0

Most moves for minimum solution ..... 9 (3-1)  
Most steps for minimum solution ..... 13 (3-1)  
Most solutions ..... 10 (4-1)

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 4     | 1         | 7        | 7   |
| 5     | 4         | 7        | 9   |
| 6     | 3         | 8        | 9   |
| 7     | 1         | 9        | 9   |
| 8     | 1         | 12       | 12  |
| 9     | 1         | 13       | 13  |

-----  
12-3- : Board (2-1 - Problem No. 3)  
--4- :  
-5-- : Solutions (8 Moves, 12 Steps) ... 4  
----- : Other solutions (8 Moves) ..... 0  
X--Y- : Positions evaluated ..... 11,601

1-D X-R 5-DLU 2-R 4-D Y-ULD 4-U X-U  
1-D X-R 5-DLU 4-D Y-ULD 2-R 4-U X-U  
1-D X-R 5-DLU 4-D Y-ULD 3-L 4-U X-U  
1-D X-R 5-DLU 4-D 2-R Y-ULD 4-U X-U

-----  
1-23- : Board (3-1 - Problem No. 4)  
--4-- :  
--5-- : Solutions (9 Moves, 13 Steps) ... 4  
----- : Other solutions (9 Moves) ..... 0  
X--Y- : Positions evaluated ..... 14,142

2-L 1-D X-R 5-DLU 2-R 4-D Y-ULD 4-U X-U  
2-L 1-D X-R 5-DLU 4-D Y-ULD 2-R 4-U X-U  
2-L 1-D X-R 5-DLU 4-D Y-ULD 3-L 4-U X-U  
2-L 1-D X-R 5-DLU 4-D 2-R Y-ULD 4-U X-U

-----  
1---X : Board (4-1)  
-23-- :  
--4-- : Solutions (6 Moves, 8 Steps) ... 10  
-5--Y : Other solutions (6 Moves) ..... 0  
----- : Positions evaluated ..... 977

1-R X-D 2-D 4-RU X-L Y-LU  
1-R X-D 2-D 4-RU Y-LU X-L  
1-R X-D 4-RU Y-LU 2-D X-L  
1-R X-D 4-RU Y-LU 5-U X-L  
1-R X-D 4-RU 2-D X-L Y-LU  
1-R X-D 4-RU 2-D Y-LU X-L  
1-R 2-D X-D 4-RU X-L Y-LU  
1-R 2-D X-D 4-RU Y-LU X-L  
2-D 1-R X-D 4-RU X-L Y-LU  
2-D 1-R X-D 4-RU Y-LU X-L

-----  
1---- : Board (6-1)  
--23- :  
-45-- : Solutions (5 Moves, 7 Steps) ... 2  
----- : Other solutions (5 Moves) ..... 0  
X--Y- : Positions evaluated ..... 222

1-D X-R 5-DL X-U Y-UL  
1-D X-R 5-DL Y-UL X-U

-----  
1--- : Board (7-1)  
--23- :  
--45- : Solutions (7 Moves, 9 Steps) ... 1  
----- : Other solutions (7 Moves) ..... 0  
X-Y-- : Positions evaluated ..... 106

4-D Y-L X-U 2-L Y-UR 2-R X-RD

-----  
-1-X : Board (9-1)  
-23-- :  
--4-- : Solutions (6 Moves, 8 Steps) ... 10  
-5--Y : Other solutions (6 Moves) ..... 0  
----- : Positions evaluated ..... 1,434

1-R X-D 2-D 4-RU X-L Y-LU  
1-R X-D 2-D 4-RU Y-LU X-L  
1-R X-D 4-RU Y-LU 2-D X-L  
1-R X-D 4-RU Y-LU 5-U X-L  
1-R X-D 4-RU 2-D X-L Y-LU  
1-R X-D 4-RU 2-D Y-LU X-L  
1-R 2-D X-D 4-RU X-L Y-LU  
1-R 2-D X-D 4-RU Y-LU X-L  
2-D 1-R X-D 4-RU X-L Y-LU  
2-D 1-R X-D 4-RU Y-LU X-L

```

-1-X- : Board (10-1)
-2--- :
Y-34- : Solutions (5 Moves, 8 Steps) ... 2
--5-- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 834

```

```

1-R 3-L X-DLD 3-RU Y-R
3-L 1-R X-DLD 3-RU Y-R

```

```

-1--X : Board (11-1)
-2-- :
-34-- : Solutions (5 Moves, 7 Steps) ... 2
-5--Y : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 723

```

```

1-R X-D 4-RU X-L Y-LU
1-R X-D 4-RU Y-LU X-L

```

```

-1--- : Board (12-1 - Problem No. 1)
-2-- :
-34-- : Solutions (4 Moves, 7 Steps) ... 2
X--5- : Other solutions (4 Moves) ..... 0
--Y-- : Positions evaluated ..... 313

```

```

3-U 4-DLU X-RU Y-U
3-U 4-DLU Y-U X-RU

```

```

-1-X- : Board (14-1)
----- :
Y234- : Solutions (6 Moves, 9 Steps) ... 2
--5-- : Other solutions (6 Moves) ..... 0
----- : Positions evaluated ..... 1,145

```

```

2-U 1-R 3-L X-DLD 3-RU Y-R
2-U 3-L 1-R X-DLD 3-RU Y-R

```

```

--1-- : Board (15-1 - Problem No. 2)
X-2-Y :
--3-- : Solutions (5 Moves, 9 Steps) ... 4
-4-5- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 10,218

```

```

2-LD X-RD 3-U X-L Y-LDL
2-LD X-R 3-U X-DL Y-LDL
2-RD Y-LD 3-U Y-R X-RDR
2-RD Y-L 3-U Y-DR X-RDR

```

## Figure 9

```

Configurations ..... 21,462
Configurations with solutions ..... 55
  With all pieces significant ..... 55
  With insignificant pieces ..... 0
Most moves for minimum solution ..... 11 (14-1)
Most steps for minimum solution ..... 16 (5-1)
Most solutions ..... 30 (50-1)

```

| Moves | Count.... | Steps... |     |
|-------|-----------|----------|-----|
|       |           | Min      | Max |
| 3     | 6         | 5        | 6   |
| 4     | 4         | 6        | 6   |
| 5     | 9         | 7        | 8   |
| 6     | 12        | 7        | 10  |
| 7     | 5         | 8        | 11  |
| 8     | 11        | 8        | 12  |
| 9     | 3         | 9        | 16  |
| 10    | 3         | 12       | 15  |
| 11    | 2         | 12       | 13  |

```

123 : Board (1-1)
--- :
4----- : Solutions (10 Moves, 15 Steps) . 1
----- : Other solutions (10 Moves) ..... 0
--X-Y-- : Positions evaluated ..... 754
--- :
--- :

```

```

3-D Y-LU 1-DR Y-D 2-D Y-L 1-U Y-RDR 4-R X-UR

```

```

12X : Board (2-1)
3-- :
----- : Solutions (6 Moves, 7 Steps) ... 4
----- : Other solutions (6 Moves) ..... 0
----- : Positions evaluated ..... 148
-Y- :
--4 :

```

```

2-D 4-U X-LD 3-R 2-U Y-U
2-D 4-U X-LD 4-L 2-U Y-U
4-U 2-D X-LD 3-R 2-U Y-U
4-U 2-D X-LD 4-L 2-U Y-U

```

```

12- : Board (3-1)
--X :
--3---- : Solutions (8 Moves, 8 Steps) ... 20
----- : Other solutions (8 Moves) ..... 0
--Y--- : Positions evaluated ..... 804
--- :
-4- :

```

```

1-D 2-D X-L 2-U 4-U Y-U 2-D X-D
1-D 2-D X-L 4-U 2-U Y-U 2-D X-D
1-D 2-D 4-U X-L 2-U Y-U 2-D X-D
1-D 4-U 2-D X-L 2-U Y-U 2-D X-D
2-D 1-D X-L 2-U 4-U Y-U 2-D X-D
2-D 1-D X-L 4-U 2-U Y-U 2-D X-D
2-D 1-D 4-U X-L 2-U Y-U 2-D X-D
2-D 3-U X-L 2-U 4-U Y-U 2-D X-D
2-D 3-U X-L 4-U 2-U Y-U 2-D X-D
2-D 3-U 4-U X-L 2-U Y-U 2-D X-D
2-D 4-U 1-D X-L 2-U Y-U 2-D X-D
2-D 4-U 3-U X-L 2-U Y-U 2-D X-D
3-U 2-D X-L 2-U 4-U Y-U 2-D X-D
3-U 2-D X-L 4-U 2-U Y-U 2-D X-D
3-U 2-D 4-U X-L 2-U Y-U 2-D X-D
4-U 1-D 2-D X-L 2-U Y-U 2-D X-D
4-U 2-D 1-D X-L 2-U Y-U 2-D X-D
4-U 2-D 3-U X-L 2-U Y-U 2-D X-D
4-U 3-U 2-D X-L 2-U Y-U 2-D X-D

```

```

12- : Board (4-1)
--- :
--3-- : Solutions (7 Moves, 8 Steps) ... 2
--X---4 : Other solutions (7 Moves) ..... 0
--Y--- : Positions evaluated ..... 665
--- :
--- :

```

```

1-DR 2-D 1-D 4-L 1-U X-R Y-U
1-DR 2-D 1-D 4-L 1-U Y-U X-R

```

```

12- : Board (5-1 - Problem No. 3)
--- :
-----3- : Solutions (9 Moves, 16 Steps) ... 1
----- : Other solutions (9 Moves) ..... 0
--X-Y-- : Positions evaluated ..... 314
--- :
-4- :

```

```

1-D X-RU 4-URDL X-D 2-D X-RD 4-UR X-L Y-UL

```

```

12- : Board (6-1)
--X :
----- : Solutions (8 Moves, 9 Steps) ... 5
3----- : Other solutions (8 Moves) ..... 0
---Y--- : Positions evaluated ..... 382
--- :
-4- :

```

```

2-D 3-RU X-L 2-U 4-U Y-U 2-D X-D
2-D 3-RU X-L 4-U 2-U Y-U 2-D X-D
2-D 3-RU 4-U X-L 2-U Y-U 2-D X-D
2-D 4-U 3-RU X-L 2-U Y-U 2-D X-D
4-U 2-D 3-RU X-L 2-U Y-U 2-D X-D

```

```

12- : Board (7-1)
--- :
-----3 : Solutions (6 Moves, 8 Steps) ... 2
----- : Other solutions (6 Moves) ..... 0
--X--4- : Positions evaluated ..... 568
-Y- :
--- :

```

```

1-D 3-L 2-D 3-DR X-RU Y-U
1-D 3-L 2-D 3-DR Y-U X-RU

```

```

12- : Board (8-1)
--- :
----- : Solutions (7 Moves, 11 Steps) .. 5
---X-3 : Other solutions (7 Moves) ..... 0
--Y--- : Positions evaluated ..... 3,573
--4 :
--- :

```

```

1-DR 2-D 3-L X-DL 1-RD X-U Y-RU
1-DR 3-L X-DL 2-D 1-RD X-U Y-RU
1-DR 3-L 2-D X-DL 1-RD X-U Y-RU
3-L 1-DR X-DL 2-D 1-RD X-U Y-RU
3-L 1-DR 2-D X-DL 1-RD X-U Y-RU

```

```

12- : Board (9-1)
--- :
----- : Solutions (8 Moves, 12 Steps) .. 5
---X-3 : Other solutions (8 Moves) ..... 0
--Y--- : Positions evaluated ..... 3,286
--- :
-4- :

```

```

1-DR 2-D 3-L X-D 1-R X-ULU 4-U Y-RU
1-DR 3-L X-D 2-D 1-R X-ULU 4-U Y-RU
1-DR 3-L 2-D X-D 1-R X-ULU 4-U Y-RU
3-L 1-DR X-D 2-D 1-R X-ULU 4-U Y-RU
3-L 1-DR 2-D X-D 1-R X-ULU 4-U Y-RU

```

```

12- : Board (10-1)
--- :
-----X- : Solutions (9 Moves, 16 Steps) .. 2
----- : Other solutions (9 Moves) ..... 0
--Y-3-- : Positions evaluated ..... 312
--- :
-4- :

```

```

1-D Y-RU 4-URDL Y-D 2-D Y-RD 4-U Y-L X-LDL
1-D Y-RU 4-URDL Y-D 2-D Y-R 4-U Y-DL X-LDL

```

```

12- : Board (11-1 - Problem No. 2)
--- :
-----X- : Solutions (9 Moves, 9 Steps) ... 12
--Y--- : Other solutions (9 Moves) ..... 0
-----3- : Positions evaluated ..... 1,634
--- :
-4- :

```

```

1-D 2-D 3-U X-L 2-U 4-U 2-R X-D Y-R
1-D 2-D 3-U X-L 2-U 4-U 2-R Y-R X-D
1-D 3-U 2-D X-L 2-U 4-U 2-R X-D Y-R
1-D 3-U 2-D X-L 2-U 4-U 2-R Y-R X-D
2-D 1-D 3-U X-L 2-U 4-U 2-R X-D Y-R
2-D 1-D 3-U X-L 2-U 4-U 2-R Y-R X-D
2-D 3-U 1-D X-L 2-U 4-U 2-R X-D Y-R
2-D 3-U 1-D X-L 2-U 4-U 2-R Y-R X-D
3-U 1-D 2-D X-L 2-U 4-U 2-R Y-R X-D
3-U 1-D 2-D X-L 2-U 4-U 2-R Y-R X-D
3-U 2-D 1-D X-L 2-U 4-U 2-R Y-R X-D
3-U 2-D 1-D X-L 2-U 4-U 2-R Y-R X-D

```

```

12X : Board (12-1)
--- :
----- : Solutions (5 Moves, 8 Steps) ... 4
----- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 1,651
Y-3 :
--4 :

```

```

3-L 2-D 4-U X-LD Y-URD
3-L 2-D 4-U Y-URD X-LD
3-L 4-U 2-D X-LD Y-URD
3-L 4-U 2-D Y-URD X-LD

```

```

1X2 : Board (13-1)
-3- :
----- : Solutions (8 Moves, 9 Steps) ... 10
----- : Other solutions (8 Moves) ..... 0
--Y--- : Positions evaluated ..... 347
--- :
-4- :

```

```

3-D X-D Y-D 1-RD 3-D X-D 3-U Y-U
3-D X-D Y-D 2-LD 3-D X-D 3-U Y-U
3-D X-D Y-D 3-D 1-RD X-D 3-U Y-U
3-D X-D Y-D 3-D 2-LD X-D 3-U Y-U
3-D X-D 1-RD Y-D 3-D X-D 3-U Y-U
3-D X-D 2-LD Y-D 3-D X-D 3-U Y-U
3-D Y-D X-D 1-RD 3-D X-D 3-U Y-U
3-D Y-D X-D 2-LD 3-D X-D 3-U Y-U
3-D Y-D X-D 3-D 1-RD X-D 3-U Y-U
3-D Y-D X-D 3-D 2-LD X-D 3-U Y-U

```

```

1-2 : Board (14-1)
--- :
3----- : Solutions (11 Moves, 13 Steps) . 6
----- : Other solutions (11 Moves) ..... 0
X---Y-- : Positions evaluated ..... 5,253
--- :
-4- :

```

```

3-D X-R Y-U 2-LD 3-RU Y-L 2-U 4-U X-U 2-D Y-D
3-D X-R Y-U 2-LD 3-RU Y-L 4-U 2-U X-U 2-D Y-D
3-D X-R Y-U 2-LD 3-RU 4-U Y-L 2-U X-U 2-D Y-D
3-D X-R Y-U 2-LD 4-U 3-RU Y-L 2-U X-U 2-D Y-D
3-D X-R Y-U 4-U 2-LD 3-RU Y-L 2-U X-U 2-D Y-D
3-D X-R 4-U Y-U 2-LD 3-RU Y-L 2-U X-U 2-D Y-D

```

```

1-- : Board (15-1)
2-X :
3----- : Solutions (11 Moves, 12 Steps) . 2
----- : Other solutions (11 Moves) ..... 0
--Y--- : Positions evaluated ..... 403
--- :
-4- :

```

```

2-R 4-U Y-U 3-RU Y-D 2-D X-L 2-U Y-U 2-D X-D
4-U 2-R Y-U 3-RU Y-D 2-D X-L 2-U Y-U 2-D X-D

```

```

1-- : Board (16-1)
2-X :
-3----- : Solutions (10 Moves, 14 Steps) . 4
----- : Other solutions (10 Moves) ..... 0
--Y--- : Positions evaluated ..... 1,073
--- :
-4- :

```

```

2-R 4-U Y-ULU 2-D Y-R 2-U 3-RU 2-D Y-D X-LD
2-R 4-U Y-UL 2-D Y-UR 2-U 3-RU 2-D Y-D X-LD
4-U 2-R Y-ULU 2-D Y-R 2-U 3-RU 2-D Y-D X-LD
4-U 2-R Y-UL 2-D Y-UR 2-U 3-RU 2-D Y-D X-LD

```

```

1-- : Board (17-1)
2-X :
--3----- : Solutions (8 Moves, 9 Steps) ... 10
----- : Other solutions (8 Moves) ..... 0
--Y--- : Positions evaluated ..... 679
--- :
-4- :

```

```

2-RD 1-D X-L 2-U 4-U Y-U 2-D X-D
2-RD 1-D X-L 4-U 2-U Y-U 2-D X-D
2-RD 1-D 4-U X-L 2-U Y-U 2-D X-D
2-RD 3-U X-L 2-U 4-U Y-U 2-D X-D
2-RD 3-U X-L 4-U 2-U Y-U 2-D X-D
2-RD 3-U 4-U X-L 2-U Y-U 2-D X-D
2-RD 4-U 1-D X-L 2-U Y-U 2-D X-D
2-RD 4-U 3-U X-L 2-U Y-U 2-D X-D
4-U 2-RD 1-D X-L 2-U Y-U 2-D X-D
4-U 2-RD 3-U X-L 2-U Y-U 2-D X-D

```

```

1-X : Board (18-1)
2-- :
---3--- : Solutions (6 Moves, 7 Steps) ... 4
---4--- : Other solutions (6 Moves) ..... 0
---Y--- : Positions evaluated ..... 874
--- :
-4- :

```

```

3-U 4-D X-LD 2-R 4-U Y-U
3-U 4-D X-LD 3-L 4-U Y-U
4-D 3-U X-LD 2-R 4-U Y-U
4-D 3-U X-LD 3-L 4-U Y-U

```

```

1-X : Board (19-1)
2-- :
---3--- : Solutions (6 Moves, 8 Steps) ... 2
---4--- : Other solutions (6 Moves) ..... 0
---Y--- : Positions evaluated ..... 6,534
--- :
-4- :

```

```

3-D 4-LU X-LD 2-R 3-U Y-U
3-D 4-LU X-LD 4-L 3-U Y-U

```

```

1-X : Board (20-1)
2-- :
---3--- : Solutions (6 Moves, 8 Steps) ... 2
---4--- : Other solutions (6 Moves) ..... 0
---Y--- : Positions evaluated ..... 3,038
--- :
-4- :

```

```

3-D 4-LU X-LD 2-R 3-U Y-U
3-D 4-LU X-LD 4-L 3-U Y-U

```

```

1-- : Board (21-1)
2-X :
----- : Solutions (5 Moves, 8 Steps) ... 4
----- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 2,189
Y-3 :
-4- :

```

```

2-R 1-D 4-U X-DLU Y-RU
2-R 1-D 4-U Y-RU X-DLU
2-R 4-U 1-D X-DLU Y-RU
2-R 4-U 1-D Y-RU X-DLU

```

```

1-- : Board (22-1)
-23 :
----- : Solutions (10 Moves, 12 Steps) . 6
--X---4 : Other solutions (10 Moves) ..... 0
--Y--- : Positions evaluated ..... 415
--- :
-4- :

```

```

1-D X-R 2-D X-L 4-L X-UL 2-RU X-D 1-R Y-U
1-D X-R 2-D X-L 4-L X-UL 2-RU X-D 2-L Y-U
1-D X-R 2-D X-L 4-L X-UL 2-R X-D 3-DL Y-U
1-D X-R 2-D X-L 4-L X-UL 2-R X-D 2-UL Y-U
1-D X-R 2-D X-L 4-L X-U 2-R X-LD 3-DL Y-U
1-D X-R 2-D X-L 4-L X-U 2-R X-LD 2-UL Y-U

```

```

1-- : Board (23-1)
-2X :
----- : Solutions (8 Moves, 9 Steps) ... 5
3----- : Other solutions (8 Moves) ..... 0
--Y--- : Positions evaluated ..... 382
--- :
-4- :

```

```

2-D 3-RU X-L 2-U 4-U Y-U 2-D X-D
2-D 3-RU X-L 4-U 2-U Y-U 2-D X-D
2-D 3-RU 4-U X-L 2-U Y-U 2-D X-D
2-D 4-U 3-RU X-L 2-U Y-U 2-D X-D
4-U 2-D 3-RU X-L 2-U Y-U 2-D X-D

```

```

1-- : Board (24-1)
-2- :
----- : Solutions (5 Moves, 7 Steps) ... 2
--X-3 : Other solutions (5 Moves) ..... 0
--Y--- : Positions evaluated ..... 2,042
--- :
-4- :

```

```

1-D 4-U X-L 3-LU Y-RU
4-U 1-D X-L 3-LU Y-RU

```

```

1-- : Board (25-1)
-2 :
--X-3-- : Solutions (5 Moves, 7 Steps) ... 2
---4--- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 395
-Y- :
-4- :

```

```

1-DR 4-D X-RD 4-U Y-U
4-D 1-DR X-RD 4-U Y-U

```

```

1-- : Board (27-1)
--- :
2----- : Solutions (7 Moves, 10 Steps) .. 2
--3-X- : Other solutions (7 Moves) ..... 0
Y----4 : Positions evaluated ..... 384
--- :
-4- :

```

```

4-L Y-UR 1-DLD 3-R Y-R 3-L X-L
4-L Y-UR 3-R 1-DLD Y-R 3-L X-L

```

```

1-- : Board (28-1)
-X :
-2----- : Solutions (6 Moves, 10 Steps) .. 2
--Y---3 : Other solutions (6 Moves) ..... 0
----- : Positions evaluated ..... 845
--- :
-4- :

```

```

3-L Y-UR 4-U 3-ULU Y-D X-LD
3-L 4-U Y-UR 3-ULU Y-D X-LD

```

```

1-X : Board (29-1)
--- :
--23-Y- : Solutions (3 Moves, 6 Steps) ... 2
----- : Other solutions (3 Moves) ..... 0
---4--- : Positions evaluated ..... 3,284
--- :
-4- :

```

```

3-RU X-LD Y-LD
3-RU Y-LD X-LD

```

```

1-X : Board (30-1)
--- :
--2-3-- : Solutions (6 Moves, 8 Steps) ... 4
---4--- : Other solutions (6 Moves) ..... 0
---Y--- : Positions evaluated ..... 4,946
--- :
-4- :

```

```

3-U 4-D X-LD 1-DR 4-U Y-U
3-U 4-D X-LD 2-UR 4-U Y-U
4-D 3-U X-LD 1-DR 4-U Y-U
4-D 3-U X-LD 2-UR 4-U Y-U

```

```

1-X : Board (31-1)
--- :
--2----- : Solutions (6 Moves, 9 Steps) ... 2
---3--- : Other solutions (6 Moves) ..... 0
---Y--- : Positions evaluated ..... 4,429
--- :
-4- :

```

```

3-D 4-LU X-LD 1-DR 3-U Y-U
3-D 4-LU X-LD 2-UR 3-U Y-U

```

```

1-- : Board (32-1)
--- :
---2--- : Solutions (3 Moves, 6 Steps) ... 2
---3--- : Other solutions (3 Moves) ..... 0
--X-4-- : Positions evaluated ..... 94
-Y- :
-4- :

```

```

3-DLU X-RU Y-U
3-DLU Y-U X-RU

```



```

1-- : Board (33-1)
--- :
--2--- : Solutions (4 Moves, 6 Steps) ... 4
--3-X- : Other solutions (4 Moves) ..... 0
--Y--- : Positions evaluated ..... 280
--4- :
--- :

1-D 3-RD X-L Y-RU
1-D 3-RD Y-RU X-L
3-RD 1-D X-L Y-RU
3-RD 1-D Y-RU X-L
-----
1-X : Board (35-1)
--- :
----2-- : Solutions (6 Moves, 8 Steps) ... 2
--34--- : Other solutions (6 Moves) ..... 0
----- : Positions evaluated ..... 2,422
-Y- :
--- :

2-U 4-D X-LD 3-UR 4-U Y-U
4-D 2-U X-LD 3-UR 4-U Y-U
-----
1- : Board (36-1)
-X- :
-Y--2-- : Solutions (3 Moves, 6 Steps) ... 2
--3--- : Other solutions (3 Moves) ..... 0
--4--- : Positions evaluated ..... 89
--- :
--- :

3-ULU X-D Y-RD
3-ULU Y-RD X-D
-----
1-- : Board (37-1)
--- :
---X-- : Solutions (6 Moves, 8 Steps) ... 3
2-Y--- : Other solutions (6 Moves) ..... 0
---3-- : Positions evaluated ..... 2,447
-4- :
--- :

1-DR X-D 2-R Y-R 4-UL X-L
1-DR 2-R X-D Y-R 4-UL X-L
2-R 1-DR X-D Y-R 4-UL X-L
-----
1-- : Board (39-1)
--- :
---X-- : Solutions (8 Moves, 12 Steps) ... 5
2-Y--- : Other solutions (8 Moves) ..... 0
----- : Positions evaluated ..... 3,284
--3- :
-4- :
--- :

2-R 3-UL Y-U 4-U 3-L Y-DRD 1-D X-LD
2-R 3-UL 4-U Y-U 3-L Y-DRD 1-D X-LD
3-UL 2-R Y-U 4-U 3-L Y-DRD 1-D X-LD
3-UL 2-R 4-U Y-U 3-L Y-DRD 1-D X-LD
3-UL 4-U 2-R Y-U 3-L Y-DRD 1-D X-LD
-----
1-X : Board (40-1)
--- :
----- : Solutions (6 Moves, 9 Steps) ... 1
--23--- : Other solutions (6 Moves) ..... 0
-----4 : Positions evaluated ..... 4,741
-Y- :
--- :

3-D 4-LU X-LD 2-UR 3-U Y-U
-----
1-X : Board (41-1)
--- :
----- : Solutions (5 Moves, 8 Steps) ... 6
--2--- : Other solutions (5 Moves) ..... 0
--3--- : Positions evaluated ..... 2,709
Y-4 :
--- :

3-U 4-L 2-D X-LD Y-URD
3-U 4-L 2-D Y-URD X-LD
4-L 2-D 3-U X-LD Y-URD
4-L 2-D 3-U Y-URD X-LD
4-L 3-U 2-D X-LD Y-URD
4-L 3-U 2-D Y-URD X-LD
-----
1-- : Board (42-1)
--- :
-X-Y-- : Solutions (8 Moves, 9 Steps) ... 2
----- : Other solutions (8 Moves) ..... 0
-2----- : Positions evaluated ..... 121
-3- :
-4- :
--- :

2-U X-R 3-U 4-U 3-L X-D 1-D Y-LD
2-U X-R 3-U 4-U 3-L 1-D X-D Y-LD
-----
1-- : Board (43-1)
--- :
---X- : Solutions (8 Moves, 8 Steps) ... 4
--Y--- : Other solutions (8 Moves) ..... 0
---2- : Positions evaluated ..... 238
-3- :
-4- :
--- :

1-D 2-U X-L 3-U 4-U 3-R X-D Y-R
1-D 2-U X-L 3-U 4-U 3-R Y-R X-D
2-U 1-D X-L 3-U 4-U 3-R X-D Y-R
2-U 1-D X-L 3-U 4-U 3-R Y-R X-D
-----
-1- : Board (45-1)
2-- :
----- : Solutions (7 Moves, 11 Steps) ... 5
---X-3 : Other solutions (7 Moves) ..... 0
--Y--- : Positions evaluated ..... 3,632
--4- :
--- :

2-DR 1-D 3-L X-DL 2-RD X-U Y-RU
2-DR 3-L X-DL 1-D 2-RD X-U Y-RU
2-DR 3-L 1-D X-DL 2-RD X-U Y-RU
3-L 2-DR X-DL 1-D 2-RD X-U Y-RU
3-L 2-DR 1-D X-DL 2-RD X-U Y-RU
-----

```

```

-1- : Board (46-1)
-2- :
-3----- : Solutions (7 Moves, 9 Steps) ... 1
----- : Other solutions (7 Moves) ..... 0
-X-Y-- : Positions evaluated ..... 132
4-- :
--- :

3-D X-R 2-D 1-D 2-LD X-U Y-LU
-----
-1- : Board (47-1)
-2- :
-3----- : Solutions (8 Moves, 8 Steps) ... 4
---X-- : Other solutions (8 Moves) ..... 0
-Y----- : Positions evaluated ..... 316
--4- :
--- :

3-D 4-U Y-R 2-D 1-D 2-L X-L Y-U
3-D 4-U Y-R 2-D 1-D 2-L Y-U X-L
4-U 3-D Y-R 2-D 1-D 2-L X-L Y-U
4-U 3-D Y-R 2-D 1-D 2-L Y-U X-L
-----
-1- : Board (50-1)
--- :
----- : Solutions (8 Moves, 9 Steps) ... 30
2-X--3Y : Other solutions (8 Moves) ..... 6
----- : Positions evaluated ..... 5,031
--- :
-4- :
--- :

2-R 3-L Y-L 1-D 3-D X-R 3-UL Y-L
2-R 3-L Y-L 4-U 3-U X-R 3-DL Y-L
2-R 3-L 1-D Y-L 3-D X-R 3-UL Y-L
2-R 3-L 1-D 3-D X-R 3-UL X-L Y-L
2-R 3-L 4-U Y-L 3-U X-R 3-DL Y-L
2-R 3-L 4-U 3-U X-R 3-DL X-L Y-L
3-L Y-L 1-D 2-R 3-D X-R 3-UL Y-L
3-L Y-L 1-D 3-D 2-R X-R 3-UL Y-L
3-L Y-L 2-R 1-D 3-D X-R 3-UL Y-L
3-L Y-L 2-R 4-U 3-U X-R 3-DL Y-L
3-L Y-L 4-U 2-R 3-U X-R 3-DL Y-L
3-L Y-L 4-U 3-U 2-R X-R 3-DL Y-L
3-L 1-D Y-L 2-R 3-D X-R 3-UL Y-L
3-L 1-D Y-L 3-D 2-R X-R 3-UL Y-L
3-L 1-D 2-R Y-L 3-D X-R 3-UL Y-L
3-L 1-D 2-R 3-D X-R 3-UL X-L Y-L
3-L 1-D 3-R 4-UR X-R 4-L 3-L Y-L
3-L 1-D 3-D 2-R X-R 3-UL X-L Y-L
3-L 2-R Y-L 1-D 3-D X-R 3-UL Y-L
3-L 2-R Y-L 4-U 3-U X-R 3-DL Y-L
3-L 2-R 1-D Y-L 3-D X-R 3-UL Y-L
3-L 2-R 1-D 3-D X-R 3-UL X-L Y-L
3-L 2-R 4-U Y-L 3-U X-R 3-DL Y-L
3-L 2-R 4-U 3-U X-R 3-DL X-L Y-L
3-L 4-U Y-L 2-R 3-U X-R 3-DL Y-L
3-L 4-U Y-L 3-U 2-R X-R 3-DL Y-L
3-L 4-U 2-R Y-L 3-U X-R 3-DL Y-L
3-L 4-U 2-R 3-U X-R 3-DL X-L Y-L
3-L 4-U 3-R 1-DR X-R 1-L 3-L Y-L
3-L 4-U 3-U 2-R X-R 3-DL X-L Y-L
-----
--- : Board (51-1)
1-X :
--2---- : Solutions (5 Moves, 7 Steps) ... 2
--34--- : Other solutions (5 Moves) ..... 0
----- : Positions evaluated ..... 519
-Y- :
--- :

1-R 3-D X-DLD 3-U Y-U
3-D 1-R X-DLD 3-U Y-U
-----
--- : Board (52-1)
1-X :
--2---- : Solutions (5 Moves, 7 Steps) ... 3
--34--- : Other solutions (5 Moves) ..... 0
--4-Y-- : Positions evaluated ..... 847
--- :
--- :

1-R 2-D 3-U X-DL Y-LU
1-R 3-U 2-D X-DL Y-LU
2-D 1-R 3-U X-DL Y-LU
-----
--- : Board (53-1)
1-X :
--2---- : Solutions (5 Moves, 7 Steps) ... 6
--3--- : Other solutions (5 Moves) ..... 0
--Y-4-- : Positions evaluated ..... 853
--- :
--- :

1-R 2-D 3-U X-DL Y-RU
1-R 2-D 3-U Y-RU X-DL
1-R 3-U 2-D X-DL Y-RU
1-R 3-U 2-D Y-RU X-DL
2-D 1-R 3-U X-DL Y-RU
2-D 1-R 3-U Y-RU X-DL
-----
--- : Board (54-1)
1-X :
--2---- : Solutions (5 Moves, 8 Steps) ... 2
--3--- : Other solutions (5 Moves) ..... 0
---4- : Positions evaluated ..... 2,047
--- :
--- :

3-DRU X-LD 2-R X-U Y-U
3-DRU X-LD 3-L X-U Y-U
-----
--- : Board (55-1)
1-- :
--2--- : Solutions (3 Moves, 6 Steps) ... 2
--3--- : Other solutions (3 Moves) ..... 0
-X--4- : Positions evaluated ..... 96
-Y- :
--- :

3-DLU X-RU Y-U
3-DLU Y-U X-RU
-----

```

```

--- : Board (56-1)
1-- :
--2--- : Solutions (4 Moves, 6 Steps) ... 4
--3-X- : Other solutions (4 Moves) ..... 0
--Y--- : Positions evaluated ..... 294
--4 :
---
```

```

1-D 3-RD X-L Y-RU
1-D 3-RD Y-RU X-L
3-RD 1-D X-L Y-RU
3-RD 1-D Y-RU X-L
```

```

--- : Board (57-1)
1-X :
----- : Solutions (6 Moves, 8 Steps) ... 3
--234-- : Other solutions (6 Moves) ..... 0
----- : Positions evaluated ..... 2,245
--Y- :
---
```

```

2-U 1-R 3-D X-DLD 3-U Y-U
2-U 3-D 1-R X-DLD 3-U Y-U
3-D 2-U 1-R X-DLD 3-U Y-U
```

```

--- : Board (58-1)
1-X :
----- : Solutions (4 Moves, 6 Steps) ... 1
--23--- : Other solutions (4 Moves) ..... 0
--4-Y-- : Positions evaluated ..... 520
---
```

```

1-R 3-U X-DL Y-LU
```

```

--- : Board (59-1 - Problem No. 1)
1-X :
----- : Solutions (3 Moves, 5 Steps) ... 2
--23-Y- : Other solutions (3 Moves) ..... 0
--4--- : Positions evaluated ..... 1,183
---
```

```

3-RU X-LD Y-L
3-RU Y-L X-LD
```

```

--- : Board (60-1)
1-- :
----X-- : Solutions (4 Moves, 6 Steps) ... 4
-Y-2--- : Other solutions (4 Moves) ..... 0
--34--- : Positions evaluated ..... 416
---
```

```

2-LU 4-U X-LD Y-R
2-LU 4-U Y-R X-LD
4-U 2-LU X-LD Y-R
4-U 2-LU Y-R X-LD
```

```

--- : Board (61-1)
--- :
--12--- : Solutions (3 Moves, 6 Steps) ... 2
--3--- : Other solutions (3 Moves) ..... 0
-X--4-- : Positions evaluated ..... 83
--Y- :
---
```

```

3-DLU X-RU Y-U
3-DLU Y-U X-RU
```

## Figure 10

```

Configurations ..... 8
Configurations with solutions ..... 8
  With all pieces significant ..... 8
  With insignificant pieces ..... 0

Most moves for minimum solution ..... 16
Most steps for minimum solution ..... 23
Most solutions ..... 8
```

| Moves | Count.... | Steps... | Min | Max |
|-------|-----------|----------|-----|-----|
| 2     | 2         | 3        | 12  |     |
| 4     | 2         | 8        | 15  |     |
| 6     | 1         | 15       | 15  |     |
| 10    | 1         | 11       | 11  |     |
| 11    | 1         | 23       | 23  |     |
| 16    | 1         | 23       | 23  |     |

```

--1- : Board (Problem No. 1)
-2--- :
--3--- : Solutions (2 Moves, 3 Steps) ... 1
--3- : Other solutions (2 Moves) ..... 0
-X--- : Positions evaluated ..... 10
```

```

1-D X-UR
```

```

--1- : Board (Problem No. 2)
--2 :
3--- : Solutions (2 Moves, 12 Steps) ... 1
--4- : Other solutions (2 Moves) ..... 0
5X--- : Positions evaluated ..... 32
```

```

5-URURDL X-URURDL
```

```

-X--- : Board (Problem No. 3)
-1--Y :
----- : Solutions (4 Moves, 8 Steps) ... 1
--2-3 : Other solutions (4 Moves) ..... 0
----- : Positions evaluated ..... 508
```

```

1-D 2-R X-DRDL Y-DL
```

```

1-2-3 : Board (Problem No. 4)
----- :
4---- : Solutions (6 Moves, 15 Steps) .. 2
----- : Other solutions (6 Moves) ..... 0
5--X : Positions evaluated ..... 11,739
```

```

2-R 3-D X-L 5-URU 2-LDRUL X-URUL
4-D 5-R X-U 3-LDL 4-URDLU X-LDLU
```

```

X--1- : Board (Problem No. 5)
----- :
--2 : Solutions (10 Moves, 11 Steps) . 1
--34 : Other solutions (10 Moves) ..... 0
5---- : Positions evaluated ..... 58
```

```

1-L X-D 3-L 4-L 3-U X-R 3-D 1-D 3-R X-RU
```

```

-X--- : Board (Problem No. 6)
--1 :
2--- : Solutions (4 Moves, 15 Steps) .. 1
----- : Other solutions (4 Moves) ..... 0
34--5 : Positions evaluated ..... 1,126
```

```

4-R 5-ULURD 4-LURDL X-DRDL
```

```

X--12 : Board (Problem No. 7)
----- :
----- : Solutions (16 Moves, 23 Steps) . 8
--Y : Other solutions (16 Moves) ..... 0
-3--4 : Positions evaluated ..... 19,170
```

```

Y-U 1-L 2-L 1-D X-R 1-UR X-D 3-R 1-DLU 4-U Y-LDL 1-D 2-D 1-RD Y-U X-RU
Y-U 1-L 2-L 1-D X-R 1-UR X-D 3-R 1-DLU 4-U Y-LDL 1-D 4-LD 1-U Y-U X-RU
Y-U 1-L 2-L 1-D X-R 1-UR X-D 3-R 4-U 1-DLU Y-LDL 1-D 2-D 1-RD Y-U X-RU
Y-U 1-L 2-L 1-D X-R 1-UR X-D 3-R 4-U 1-DLU Y-LDL 1-D 4-LD 1-U Y-U X-RU
1-L Y-U 2-L 1-D X-R 1-UR X-D 3-R 1-DLU 4-U Y-LDL 1-D 2-D 1-RD Y-U X-RU
1-L Y-U 2-L 1-D X-R 1-UR X-D 3-R 1-DLU 4-U Y-LDL 1-D 4-LD 1-U Y-U X-RU
1-L Y-U 2-L 1-D X-R 1-UR X-D 3-R 4-U 1-DLU Y-LDL 1-D 2-D 1-RD Y-U X-RU
1-L Y-U 2-L 1-D X-R 1-UR X-D 3-R 4-U 1-DLU Y-LDL 1-D 4-LD 1-U Y-U X-RU
```

```

-X-Y : Board (Problem No. 8)
--1 :
----- : Solutions (11 Moves, 23 Steps) . 3
Z-2-- : Other solutions (11 Moves) ..... 0
--3- : Positions evaluated ..... 15,860
```

```

Y-D 2-LURD Y-LUR 2-DLUR Y-D 1-LD Y-L X-DR 1-D Y-RU Z-RU
Y-D 2-LURD Y-LUR 2-DLUR Y-D 1-LD Y-L X-DR 3-U Y-RU Z-RU
Y-D 2-LURD Y-LUR 2-DLUR Y-D 1-LD Y-L 3-U X-DR Y-RU Z-RU
```

## Figure 11

```

Configurations ..... 8
Configurations with solutions ..... 8
  With all pieces significant ..... 8
  With insignificant pieces ..... 0

Most moves for minimum solution ..... 22
Most steps for minimum solution ..... 40
Most solutions ..... 15
```

| Moves | Count.... | Steps... | Min | Max |
|-------|-----------|----------|-----|-----|
| 2     | 1         | 4        | 4   |     |
| 3     | 1         | 4        | 4   |     |
| 4     | 1         | 6        | 6   |     |
| 5     | 1         | 8        | 8   |     |
| 7     | 1         | 11       | 11  |     |
| 11    | 1         | 33       | 33  |     |
| 18    | 1         | 29       | 29  |     |
| 22    | 1         | 40       | 40  |     |

```

--- : Board (Problem No. 1)
--- :
--1-X : Solutions (2 Moves, 4 Steps) ... 1
--2--3 : Other solutions (2 Moves) ..... 0
--4- : Positions evaluated ..... 21
---
```

```

3-L X-LDL
```

```

--- : Board (Problem No. 2)
1-- :
--2-- : Solutions (3 Moves, 4 Steps) ... 1
----- : Other solutions (3 Moves) ..... 0
----- : Positions evaluated ..... 17
---
```

```

3-X
```

```

X-1 : Board (Problem No. 3)
```

```

----- : Solutions (4 Moves, 6 Steps) ... 2
--2-3-- : Other solutions (4 Moves) ..... 0
----- : Positions evaluated ..... 439
---
```

```

1-L 4-U 2-RU X-DR
4-U 1-L 2-RU X-DR
```

```

X-- : Board (Problem No. 4)
--- :
-1Y-2-- : Solutions (5 Moves, 8 Steps) ... 1
----- : Other solutions (5 Moves) ..... 1
--3--- : Positions evaluated ..... 1,109
-4- :
---
```

```

3-U Y-RD X-DRD 1-R Y-U
```

```

XYZ : Board (Problem No. 5)
123 :
----- : Solutions (7 Moves, 11 Steps) .. 4
----- : Other solutions (7 Moves) ..... 0
----- : Positions evaluated ..... 154,660
--- :
4-5 :

4-R 2-D 5-U 3-LD Y-D X-RD Z-DLD
4-R 5-U 2-D 3-LD Y-D X-RD Z-DLD
5-L 2-D 4-U 1-RD Y-D Z-LD X-DRD
5-L 4-U 2-D 1-RD Y-D Z-LD X-DRD
-----
XYZ : Board (Problem No. 6)
1-- :
23---- : Solutions (18 Moves, 29 Steps) . 14
----- : Other solutions (18 Moves) ..... 0
-----4 : Positions evaluated ..... 348,577
5-- :
--- :

1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD Z-DL X-RU 3-DR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD Z-DL X-RU 5-UR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD X-RU Z-DL 3-DR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD X-RU Z-DL 5-UR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD X-RU 5-UR Z-DL X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD X-RU 5-UR X-D Z-DL Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D Y-D X-RD 1-L 3-ULD X-RU 5-UR X-D Y-D Z-DL
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD Z-DL X-RU 3-DR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD Z-DL X-RU 5-UR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD X-RU Z-DL 3-DR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD X-RU Z-DL 5-UR X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD X-RU 5-UR Z-DL X-D Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD X-RU 5-UR Z-DL Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD X-RU 5-UR X-D Z-DL Y-D
1-DR X-D 1-L 4-L 1-U X-RU 3-RDRU X-L 1-D X-RD Y-D 1-L 3-ULD X-RU 5-UR X-D Y-D Z-DL
-----
--- : Board (Problem No. 7)
1-- :
-----2X : Solutions (11 Moves, 33 Steps) . 2
3----4Y : Other solutions (11 Moves) ..... 0
-----Z : Positions evaluated ..... 193,628
-5- :
--- :

4-L Y-LUR X-DLURDR 2-DLURD X-LULURD Z-LULUR 2-U 4-RU 2-D Z-D Y-LD
4-L Y-LUR X-DLURDR 2-DLURD X-LULURD Z-LULUR 2-U 5-U 2-LU Z-D Y-LD
-----
X12 : Board (Problem No. 8)
--- :
-3---45 : Solutions (22 Moves, 40 Steps) . 15
----- : Other solutions (22 Moves) ..... 90
Y----- : Positions evaluated ..... 2,721,999
--Z :
--- :

2-DL 4-L X-D 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 5-L 3-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
2-DL 4-L X-D 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 3-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
2-DL 4-L X-D 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 3-L 4-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L X-D 2-DL 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 5-L 3-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L X-D 2-DL 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 3-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L X-D 4-R 2-DL 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 5-L 3-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L X-D 4-R 2-DL 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 3-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L X-D 4-R 2-DL 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 3-L 4-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L X-D 4-R 3-RDL 2-DLU 4-L 1-D 4-R 2-RD 3-RU 4-L 5-L 2-L 4-DLU 3-RDL 4-D X-DRD 3-RUR
2-RU Y-RU X-UL Z-UL
4-L X-D 4-R 3-RDL 2-DLU 4-L 1-D 4-R 2-RD 3-RU 4-L 2-L 5-L 4-DLU 3-RDL 4-D X-DRD 3-RUR
2-RU Y-RU X-UL Z-UL
4-L X-D 4-R 3-RDL 2-DLU 4-L 1-D 4-R 2-RD 3-RU 2-L 4-L 5-L 4-DLU 3-RDL 4-D X-DRD 3-RUR
2-RU Y-RU X-UL Z-UL
4-L 2-DL X-D 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 5-L 3-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L 2-DL X-D 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 4-L 3-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL
4-L 2-DL X-D 4-R 3-RDLU 4-L 1-D 4-R 3-RD 2-RU 3-L 4-L 5-L 4-DLU 2-RDL 4-D X-DRD 2-RUR
3-RU Y-RU X-UL Z-UL

```