Transformation of PGN format for MBA:

the association rules requires a sparse matrix in order to run to completion.

Install required python libraries

In [8]: %pip install mlxtend pandas

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```
Collecting mlxtend
 Using cached mlxtend-0.23.4-py3-none-any.whl.metadata (7.3 kB)
Requirement already satisfied: pandas in /opt/anaconda3/lib/python3.12/site-
packages (2.2.2)
Requirement already satisfied: scipy>=1.2.1 in /opt/anaconda3/lib/python3.1
2/site-packages (from mlxtend) (1.13.1)
Requirement already satisfied: numpy>=1.16.2 in /opt/anaconda3/lib/python3.1
2/site-packages (from mlxtend) (1.26.4)
Requirement already satisfied: scikit-learn>=1.3.1 in /opt/anaconda3/lib/pyt
hon3.12/site-packages (from mlxtend) (1.5.1)
Requirement already satisfied: matplotlib>=3.0.0 in /opt/anaconda3/lib/pytho
n3.12/site-packages (from mlxtend) (3.9.2)
Requirement already satisfied: joblib>=0.13.2 in /opt/anaconda3/lib/python3.
12/site-packages (from mlxtend) (1.4.2)
Requirement already satisfied: python-dateutil>=2.8.2 in /opt/anaconda3/lib/
python3.12/site-packages (from pandas) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in /opt/anaconda3/lib/python3.1
2/site-packages (from pandas) (2024.1)
Requirement already satisfied: tzdata>=2022.7 in /opt/anaconda3/lib/python3.
12/site-packages (from pandas) (2023.3)
Requirement already satisfied: contourpy>=1.0.1 in /opt/anaconda3/lib/python
3.12/site-packages (from matplotlib>=3.0.0->mlxtend) (1.2.0)
Requirement already satisfied: cycler>=0.10 in /opt/anaconda3/lib/python3.1
2/site-packages (from matplotlib>=3.0.0->mlxtend) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in /opt/anaconda3/lib/pytho
n3.12/site-packages (from matplotlib>=3.0.0->mlxtend) (4.51.0)
Requirement already satisfied: kiwisolver>=1.3.1 in /opt/anaconda3/lib/pytho
n3.12/site-packages (from matplotlib>=3.0.0->mlxtend) (1.4.4)
Requirement already satisfied: packaging>=20.0 in /opt/anaconda3/lib/python
3.12/site-packages (from matplotlib>=3.0.0->mlxtend) (24.1)
Requirement already satisfied: pillow>=8 in /opt/anaconda3/lib/python3.12/si
te-packages (from matplotlib>=3.0.0->mlxtend) (10.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in /opt/anaconda3/lib/python
3.12/site-packages (from matplotlib>=3.0.0->mlxtend) (3.1.2)
Requirement already satisfied: six>=1.5 in /opt/anaconda3/lib/python3.12/sit
e-packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
Requirement already satisfied: threadpoolctl>=3.1.0 in /opt/anaconda3/lib/py
thon3.12/site-packages (from scikit-learn>=1.3.1->mlxtend) (3.5.0)
Downloading mlxtend-0.23.4-py3-none-any.whl (1.4 MB)
                                         - 1.4/1.4 MB 4.0 MB/s eta 0:00:00a
0:00:01
```

Installing collected packages: mlxtend Successfully installed mlxtend-0.23.4

Note: you may need to restart the kernel to use updated packages.

Import libraries for required functionality

```
In [73]: import pandas as pd
from mlxtend.frequent_patterns import apriori, association_rules, fpmax, fpg
```

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```
from mlxtend.preprocessing import TransactionEncoder
```

We need to generalize groups of moves into baskets. Coincedently, each game of chess breaks up like a story into a beginning or openning, middle and end. These three parts is just one way of breaking up the game, within each of these groups further subdivisions will help to create more sparse transactions. The results of each game maps via association to each layer or grouping.

The edit distance metric via a dynamic programming algorithm assists with generalizing specific moves to a limited set of 384 different possible moves or products for the basket / transactions.

```
In [76]: def edit_distance(predefined_set, actual_move):
             m, n = len(predefined_set), len(actual_move)
             dynamic programming table = [[0] * (n + 1) for _ in range(m + 1)]
             # Initialize the dynamic programming table
             for i in range(m + 1):
                 for j in range(n + 1):
                     if i == 0:
                         dynamic_programming_table[i][j] = j # Insert characters of
                     elif i == 0:
                         dynamic_programming_table[i][j] = i # Remove characters of
                     elif predefined set[i - 1] == actual move[j - 1]:
                         dynamic programming table[i][j] = dynamic programming table[
                     else:
                         dynamic_programming_table[i][j] = 1 + min(
                                             dynamic_programming_table[i - 1][j - 1],
                                             dynamic_programming_table[i][j - 1],
                                             dynamic programming table[i - 1][j]
             return dynamic programming table[m][n]
```

Verify or set our expectations of the edit distance metrics:

```
In [79]: possible_chess_moves = "Ba1 Ba2 Ba3 Ba4 Ba5 Ba6 Ba7 Ba8 Bb1 Bb2 Bb3 Bb4 Bb5
possible_chess_moves_w_player = " 1a1 1a2 1a3 1a4 1a5 1a6 1a7 1a8 1b1 1b2 1t
possible_chess_moves_w_captures = "Ba1 Ba2 Ba3 Ba4 Ba5 Ba6 Ba7 Ba8 Bb1 Bb2 E
possible_chess_moves_w_both = "1a1 1a2 1a3 1a4 1a5 1a6 1a7 1a8 1axb1 1axb2 1
tests="""1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.N
9.Ne5 Nbd7 10.f4 Bb7 11.0-0 0-0 12.Rc1 Nb6 13.Qf3 Rc8 14.Nb1 Qe7 15.b3 Nc4
16.Bc3 Na3 17.Bb2 Nxb1 18.Bxb1 Ne4 19.Qe2 f6 20.Nd3 Bb4 1/2-1/2"""
print (tests)
tcs =tests.split()
pcm = possible_chess_moves_w_both.split()
for t in tcs:
    t="2"+t
    if t.find('.')>0:
```

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```
t="1"+t.split('.')[1]
   min distance = 100
   for p in pcm:
     if edit_distance(p,t) <= min_distance:</pre>
       min_distance = edit_distance(p,t)
       print (f"Possible move: {p} - Actual move: {t} - Distance: {edit_dista
1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3 Bd6
9.Ne5 Nbd7 10.f4 Bb7 11.0-0 0-0 12.Rc1 Nb6 13.Qf3 Rc8 14.Nb1 Qe7 15.b3 Nc4
16.Bc3 Na3 17.Bb2 Nxb1 18.Bxb1 Ne4 19.Qe2 f6 20.Nd3 Bb4 1/2-1/2
Possible move: 1a1 - Actual move: 1d4 - Distance: 2
Possible move: 1a2 - Actual move: 1d4 - Distance: 2
Possible move: 1a3 - Actual move: 1d4 - Distance: 2
Possible move: 1a4 - Actual move: 1d4 - Distance: 1
Possible move: 1b4 - Actual move: 1d4 - Distance: 1
Possible move: 1Bd4 - Actual move: 1d4 - Distance: 1
Possible move: 1c4 - Actual move: 1d4 - Distance: 1
Possible move: 1d1 - Actual move: 1d4 - Distance: 1
Possible move: 1d2 - Actual move: 1d4 - Distance: 1
Possible move: 1d3 - Actual move: 1d4 - Distance: 1
Possible move: 1d4 - Actual move: 1d4 - Distance: 0
Possible move: 1a1 - Actual move: 2d5 - Distance: 3
Possible move: 1a2 - Actual move: 2d5 - Distance: 3
Possible move: 1a3 - Actual move: 2d5 - Distance: 3
Possible move: 1a4 - Actual move: 2d5 - Distance: 3
Possible move: 1a5 - Actual move: 2d5 - Distance: 2
Possible move: 1b5 - Actual move: 2d5 - Distance: 2
Possible move: 1Bd5 - Actual move: 2d5 - Distance: 2
Possible move: 1c5 - Actual move: 2d5 - Distance: 2
Possible move: 1d1 - Actual move: 2d5 - Distance: 2
Possible move: 1d2 - Actual move: 2d5 - Distance: 2
Possible move: 1d3 - Actual move: 2d5 - Distance: 2
Possible move: 1d4 - Actual move: 2d5 - Distance: 2
Possible move: 1d5 - Actual move: 2d5 - Distance: 1
Possible move: 2a5 - Actual move: 2d5 - Distance: 1
Possible move: 2b5 - Actual move: 2d5 - Distance: 1
Possible move: 2Bd5 - Actual move: 2d5 - Distance: 1
Possible move: 2c5 - Actual move: 2d5 - Distance: 1
Possible move: 2d1 - Actual move: 2d5 - Distance: 1
Possible move: 2d2 - Actual move: 2d5 - Distance: 1
Possible move: 2d3 - Actual move: 2d5 - Distance: 1
Possible move: 2d4 - Actual move: 2d5 - Distance: 1
Possible move: 2d5 - Actual move: 2d5 - Distance: 0
Possible move: 1a1 - Actual move: 1c4 - Distance: 2
Possible move: 1a2 - Actual move: 1c4 - Distance: 2
Possible move: 1a3 - Actual move: 1c4 - Distance: 2
Possible move: 1a4 - Actual move: 1c4 - Distance: 1
Possible move: 1b4 - Actual move: 1c4 - Distance: 1
Possible move: 1Bc4 - Actual move: 1c4 - Distance: 1
Possible move: 1c1 - Actual move: 1c4 - Distance: 1
```

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```
Possible move: 1c2 - Actual move: 1c4 - Distance: 1
Possible move: 1c3 - Actual move: 1c4 - Distance: 1
Possible move: 1c4 - Actual move: 1c4 - Distance: 0
Possible move: 1a1 - Actual move: 2c6 - Distance: 3
Possible move: 1a2 - Actual move: 2c6 - Distance: 3
Possible move: 1a3 - Actual move: 2c6 - Distance: 3
Possible move: 1a4 - Actual move: 2c6 - Distance: 3
Possible move: 1a5 - Actual move: 2c6 - Distance: 3
Possible move: 1a6 - Actual move: 2c6 - Distance: 2
Possible move: 1b6 - Actual move: 2c6 - Distance: 2
Possible move: 1Bc6 - Actual move: 2c6 - Distance: 2
Possible move: 1c1 - Actual move: 2c6 - Distance: 2
Possible move: 1c2 - Actual move: 2c6 - Distance: 2
Possible move: 1c3 - Actual move: 2c6 - Distance: 2
Possible move: 1c4 - Actual move: 2c6 - Distance: 2
Possible move: 1c5 - Actual move: 2c6 - Distance: 2
Possible move: 1c6 - Actual move: 2c6 - Distance: 1
Possible move: 2a6 - Actual move: 2c6 - Distance: 1
Possible move: 2b6 - Actual move: 2c6 - Distance: 1
Possible move: 2Bc6 - Actual move: 2c6 - Distance: 1
Possible move: 2c1 - Actual move: 2c6 - Distance: 1
Possible move: 2c2 - Actual move: 2c6 - Distance: 1
Possible move: 2c3 - Actual move: 2c6 - Distance: 1
Possible move: 2c4 - Actual move: 2c6 - Distance: 1
Possible move: 2c5 - Actual move: 2c6 - Distance: 1
Possible move: 2c6 - Actual move: 2c6 - Distance: 0
Possible move: 1a1 - Actual move: 1Nc3 - Distance: 3
Possible move: 1a2 - Actual move: 1Nc3 - Distance: 3
Possible move: 1a3 - Actual move: 1Nc3 - Distance: 2
Possible move: 1b3 - Actual move: 1Nc3 - Distance: 2
Possible move: 1Ba3 - Actual move: 1Nc3 - Distance: 2
Possible move: 1Bb3 - Actual move: 1Nc3 - Distance: 2
Possible move: 1Bc1 - Actual move: 1Nc3 - Distance: 2
Possible move: 1Bc2 - Actual move: 1Nc3 - Distance: 2
Possible move: 1Bc3 - Actual move: 1Nc3 - Distance: 1
Possible move: 1c3 - Actual move: 1Nc3 - Distance: 1
Possible move: 1Kc3 - Actual move: 1Nc3 - Distance: 1
Possible move: 1Na3 - Actual move: 1Nc3 - Distance: 1
Possible move: 1Nb3 - Actual move: 1Nc3 - Distance: 1
Possible move: 1Nc1 - Actual move: 1Nc3 - Distance: 1
Possible move: 1Nc2 - Actual move: 1Nc3 - Distance: 1
Possible move: 1Nc3 - Actual move: 1Nc3 - Distance: 0
Possible move: 1a1 - Actual move: 2Nf6 - Distance: 4
Possible move: 1a2 - Actual move: 2Nf6 - Distance: 4
Possible move: 1a3 - Actual move: 2Nf6 - Distance: 4
Possible move: 1a4 - Actual move: 2Nf6 - Distance: 4
Possible move: 1a5 - Actual move: 2Nf6 - Distance: 4
Possible move: 1a6 - Actual move: 2Nf6 - Distance: 3
Possible move: 1b6 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Ba6 - Actual move: 2Nf6 - Distance: 3
```

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```
Possible move: 1Bb6 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bc6 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bd6 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Be6 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bf1 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bf2 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bf3 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bf4 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bf5 - Actual move: 2Nf6 - Distance: 3
Possible move: 1Bf6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1f6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Kf6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Na6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nb6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nc6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nd6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Ne6 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nf1 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nf2 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nf3 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nf4 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nf5 - Actual move: 2Nf6 - Distance: 2
Possible move: 1Nf6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Bf6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2f6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Kf6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Na6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nb6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nc6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nd6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Ne6 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nf1 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nf2 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nf3 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nf4 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nf5 - Actual move: 2Nf6 - Distance: 1
Possible move: 2Nf6 - Actual move: 2Nf6 - Distance: 0
Possible move: 1a1 - Actual move: 1e3 - Distance: 2
Possible move: 1a2 - Actual move: 1e3 - Distance: 2
Possible move: 1a3 - Actual move: 1e3 - Distance: 1
Possible move: 1b3 - Actual move: 1e3 - Distance: 1
Possible move: 1Be3 - Actual move: 1e3 - Distance: 1
Possible move: 1c3 - Actual move: 1e3 - Distance: 1
Possible move: 1d3 - Actual move: 1e3 - Distance: 1
Possible move: 1e1 - Actual move: 1e3 - Distance: 1
Possible move: 1e2 - Actual move: 1e3 - Distance: 1
Possible move: 1e3 - Actual move: 1e3 - Distance: 0
Possible move: 1a1 - Actual move: 2a6 - Distance: 2
Possible move: 1a2 - Actual move: 2a6 - Distance: 2
Possible move: 1a3 - Actual move: 2a6 - Distance: 2
```

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```
Possible move: 1a4 - Actual move: 2a6 - Distance: 2
Possible move: 1a5 - Actual move: 2a6 - Distance: 2
Possible move: 1a6 - Actual move: 2a6 - Distance: 1
Possible move: 2a1 - Actual move: 2a6 - Distance: 1
Possible move: 2a2 - Actual move: 2a6 - Distance: 1
Possible move: 2a3 - Actual move: 2a6 - Distance: 1
Possible move: 2a4 - Actual move: 2a6 - Distance: 1
Possible move: 2a5 - Actual move: 2a6 - Distance: 1
Possible move: 2a6 - Actual move: 2a6 - Distance: 0
Possible move: 1a1 - Actual move: 1Bd3 - Distance: 3
Possible move: 1a2 - Actual move: 1Bd3 - Distance: 3
Possible move: 1a3 - Actual move: 1Bd3 - Distance: 2
Possible move: 1b3 - Actual move: 1Bd3 - Distance: 2
Possible move: 1Ba1 - Actual move: 1Bd3 - Distance: 2
Possible move: 1Ba2 - Actual move: 1Bd3 - Distance: 2
Possible move: 1Ba3 - Actual move: 1Bd3 - Distance: 1
Possible move: 1Bb3 - Actual move: 1Bd3 - Distance: 1
Possible move: 1Bc3 - Actual move: 1Bd3 - Distance: 1
Possible move: 1Bd1 - Actual move: 1Bd3 - Distance: 1
Possible move: 1Bd2 - Actual move: 1Bd3 - Distance: 1
Possible move: 1Bd3 - Actual move: 1Bd3 - Distance: 0
Possible move: 1a1 - Actual move: 2b5 - Distance: 3
Possible move: 1a2 - Actual move: 2b5 - Distance: 3
Possible move: 1a3 - Actual move: 2b5 - Distance: 3
Possible move: 1a4 - Actual move: 2b5 - Distance: 3
Possible move: 1a5 - Actual move: 2b5 - Distance: 2
Possible move: 1b1 - Actual move: 2b5 - Distance: 2
Possible move: 1b2 - Actual move: 2b5 - Distance: 2
Possible move: 1b3 - Actual move: 2b5 - Distance: 2
Possible move: 1b4 - Actual move: 2b5 - Distance: 2
Possible move: 1b5 - Actual move: 2b5 - Distance: 1
Possible move: 2a5 - Actual move: 2b5 - Distance: 1
Possible move: 2b1 - Actual move: 2b5 - Distance: 1
Possible move: 2b2 - Actual move: 2b5 - Distance: 1
Possible move: 2b3 - Actual move: 2b5 - Distance: 1
Possible move: 2b4 - Actual move: 2b5 - Distance: 1
Possible move: 2b5 - Actual move: 2b5 - Distance: 0
Possible move: 1a1 - Actual move: 1cxd5 - Distance: 4
Possible move: 1a2 - Actual move: 1cxd5 - Distance: 4
Possible move: 1a3 - Actual move: 1cxd5 - Distance: 4
Possible move: 1a4 - Actual move: 1cxd5 - Distance: 4
Possible move: 1a5 - Actual move: 1cxd5 - Distance: 3
Possible move: 1axb1 - Actual move: 1cxd5 - Distance: 3
Possible move: 1axb2 - Actual move: 1cxd5 - Distance: 3
Possible move: 1axb3 - Actual move: 1cxd5 - Distance: 3
Possible move: 1axb4 - Actual move: 1cxd5 - Distance: 3
Possible move: 1axb5 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bd5 - Actual move: 1cxd5 - Distance: 2
Possible move: 1bxa5 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxa5 - Actual move: 1cxd5 - Distance: 2
```

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```
Possible move: 1Bxb5 - Actual move: 1cxd5 - Distance: 2
Possible move: 1bxc5 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxc5 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxd1 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxd2 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxd3 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxd4 - Actual move: 1cxd5 - Distance: 2
Possible move: 1Bxd5 - Actual move: 1cxd5 - Distance: 1
Possible move: 1cxb5 - Actual move: 1cxd5 - Distance: 1
Possible move: 1cxd1 - Actual move: 1cxd5 - Distance: 1
Possible move: 1cxd2 - Actual move: 1cxd5 - Distance: 1
Possible move: 1cxd3 - Actual move: 1cxd5 - Distance: 1
Possible move: 1cxd4 - Actual move: 1cxd5 - Distance: 1
Possible move: 1cxd5 - Actual move: 1cxd5 - Distance: 0
Possible move: 1a1 - Actual move: 2cxd5 - Distance: 5
Possible move: 1a2 - Actual move: 2cxd5 - Distance: 5
Possible move: 1a3 - Actual move: 2cxd5 - Distance: 5
Possible move: 1a4 - Actual move: 2cxd5 - Distance: 5
Possible move: 1a5 - Actual move: 2cxd5 - Distance: 4
Possible move: 1axb1 - Actual move: 2cxd5 - Distance: 4
Possible move: 1axb2 - Actual move: 2cxd5 - Distance: 4
Possible move: 1axb3 - Actual move: 2cxd5 - Distance: 4
Possible move: 1axb4 - Actual move: 2cxd5 - Distance: 4
Possible move: 1axb5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bd5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1bxa5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxa5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxb5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1bxc5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxc5 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxd1 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxd2 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxd3 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxd4 - Actual move: 2cxd5 - Distance: 3
Possible move: 1Bxd5 - Actual move: 2cxd5 - Distance: 2
Possible move: 1cxb5 - Actual move: 2cxd5 - Distance: 2
Possible move: 1cxd1 - Actual move: 2cxd5 - Distance: 2
Possible move: 1cxd2 - Actual move: 2cxd5 - Distance: 2
Possible move: 1cxd3 - Actual move: 2cxd5 - Distance: 2
Possible move: 1cxd4 - Actual move: 2cxd5 - Distance: 2
Possible move: 1cxd5 - Actual move: 2cxd5 - Distance: 1
Possible move: 2Bxd5 - Actual move: 2cxd5 - Distance: 1
Possible move: 2cxd1 - Actual move: 2cxd5 - Distance: 1
Possible move: 2cxd2 - Actual move: 2cxd5 - Distance: 1
Possible move: 2cxd3 - Actual move: 2cxd5 - Distance: 1
Possible move: 2cxd4 - Actual move: 2cxd5 - Distance: 1
Possible move: 2cxd5 - Actual move: 2cxd5 - Distance: 0
Possible move: 1a1 - Actual move: 1Bd2 - Distance: 3
Possible move: 1a2 - Actual move: 1Bd2 - Distance: 2
Possible move: 1b2 - Actual move: 1Bd2 - Distance: 2
```

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```
Possible move: 1Ba1 - Actual move: 1Bd2 - Distance: 2
Possible move: 1Ba2 - Actual move: 1Bd2 - Distance: 1
Possible move: 1Bb2 - Actual move: 1Bd2 - Distance: 1
Possible move: 1Bc2 - Actual move: 1Bd2 - Distance: 1
Possible move: 1Bd1 - Actual move: 1Bd2 - Distance: 1
Possible move: 1Bd2 - Actual move: 1Bd2 - Distance: 0
Possible move: 1a1 - Actual move: 2e6 - Distance: 3
Possible move: 1a2 - Actual move: 2e6 - Distance: 3
Possible move: 1a3 - Actual move: 2e6 - Distance: 3
Possible move: 1a4 - Actual move: 2e6 - Distance: 3
Possible move: 1a5 - Actual move: 2e6 - Distance: 3
Possible move: 1a6 - Actual move: 2e6 - Distance: 2
Possible move: 1b6 - Actual move: 2e6 - Distance: 2
Possible move: 1Be6 - Actual move: 2e6 - Distance: 2
Possible move: 1c6 - Actual move: 2e6 - Distance: 2
Possible move: 1d6 - Actual move: 2e6 - Distance: 2
Possible move: 1e1 - Actual move: 2e6 - Distance: 2
Possible move: 1e2 - Actual move: 2e6 - Distance: 2
Possible move: 1e3 - Actual move: 2e6 - Distance: 2
Possible move: 1e4 - Actual move: 2e6 - Distance: 2
Possible move: 1e5 - Actual move: 2e6 - Distance: 2
Possible move: 1e6 - Actual move: 2e6 - Distance: 1
Possible move: 2a6 - Actual move: 2e6 - Distance: 1
Possible move: 2b6 - Actual move: 2e6 - Distance: 1
Possible move: 2Be6 - Actual move: 2e6 - Distance: 1
Possible move: 2c6 - Actual move: 2e6 - Distance: 1
Possible move: 2d6 - Actual move: 2e6 - Distance: 1
Possible move: 2e1 - Actual move: 2e6 - Distance: 1
Possible move: 2e2 - Actual move: 2e6 - Distance: 1
Possible move: 2e3 - Actual move: 2e6 - Distance: 1
Possible move: 2e4 - Actual move: 2e6 - Distance: 1
Possible move: 2e5 - Actual move: 2e6 - Distance: 1
Possible move: 2e6 - Actual move: 2e6 - Distance: 0
Possible move: 1a1 - Actual move: 1Nf3 - Distance: 3
Possible move: 1a2 - Actual move: 1Nf3 - Distance: 3
Possible move: 1a3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1b3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Ba3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Bb3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Bc3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Bd3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Be3 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Bf1 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Bf2 - Actual move: 1Nf3 - Distance: 2
Possible move: 1Bf3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1f3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Kf3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Na3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Nb3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Nc3 - Actual move: 1Nf3 - Distance: 1
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Possible move: 1Nd3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Ne3 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Nf1 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Nf2 - Actual move: 1Nf3 - Distance: 1
Possible move: 1Nf3 - Actual move: 1Nf3 - Distance: 0
Possible move: 1a1 - Actual move: 2Bd6 - Distance: 4
Possible move: 1a2 - Actual move: 2Bd6 - Distance: 4
Possible move: 1a3 - Actual move: 2Bd6 - Distance: 4
Possible move: 1a4 - Actual move: 2Bd6 - Distance: 4
Possible move: 1a5 - Actual move: 2Bd6 - Distance: 4
Possible move: 1a6 - Actual move: 2Bd6 - Distance: 3
Possible move: 1b6 - Actual move: 2Bd6 - Distance: 3
Possible move: 1Ba1 - Actual move: 2Bd6 - Distance: 3
Possible move: 1Ba2 - Actual move: 2Bd6 - Distance: 3
Possible move: 1Ba3 - Actual move: 2Bd6 - Distance: 3
Possible move: 1Ba4 - Actual move: 2Bd6 - Distance: 3
Possible move: 1Ba5 - Actual move: 2Bd6 - Distance: 3
Possible move: 1Ba6 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bb6 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bc6 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bd1 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bd2 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bd3 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bd4 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bd5 - Actual move: 2Bd6 - Distance: 2
Possible move: 1Bd6 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Ba6 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bb6 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bc6 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bd1 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bd2 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bd3 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bd4 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bd5 - Actual move: 2Bd6 - Distance: 1
Possible move: 2Bd6 - Actual move: 2Bd6 - Distance: 0
Possible move: 1a1 - Actual move: 1Ne5 - Distance: 3
Possible move: 1a2 - Actual move: 1Ne5 - Distance: 3
Possible move: 1a3 - Actual move: 1Ne5 - Distance: 3
Possible move: 1a4 - Actual move: 1Ne5 - Distance: 3
Possible move: 1a5 - Actual move: 1Ne5 - Distance: 2
Possible move: 1b5 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Ba5 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Bb5 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Bc5 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Bd5 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Be1 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Be2 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Be3 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Be4 - Actual move: 1Ne5 - Distance: 2
Possible move: 1Be5 - Actual move: 1Ne5 - Distance: 1
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Possible move: 1e5 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Ke5 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Na5 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Nb5 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Nc5 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Nd5 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Ne1 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Ne2 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Ne3 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Ne4 - Actual move: 1Ne5 - Distance: 1
Possible move: 1Ne5 - Actual move: 1Ne5 - Distance: 0
Possible move: 1a1 - Actual move: 2Nbd7 - Distance: 5
Possible move: 1a2 - Actual move: 2Nbd7 - Distance: 5
Possible move: 1a3 - Actual move: 2Nbd7 - Distance: 5
Possible move: 1a4 - Actual move: 2Nbd7 - Distance: 5
Possible move: 1a5 - Actual move: 2Nbd7 - Distance: 5
Possible move: 1a6 - Actual move: 2Nbd7 - Distance: 5
Possible move: 1a7 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1axb7 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b1 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b2 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b3 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b4 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b5 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b6 - Actual move: 2Nbd7 - Distance: 4
Possible move: 1b7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Bb7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Bd7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Bxd7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1cxd7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1d7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1exd7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Kb7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Kd7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Kxd7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Na7 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb1 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb2 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb3 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb4 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb5 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb6 - Actual move: 2Nbd7 - Distance: 3
Possible move: 1Nb7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 1Nd7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 1Nxd7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2b7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Bb7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Bd7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Bxd7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2cxd7 - Actual move: 2Nbd7 - Distance: 2
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Possible move: 2d7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Kb7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Kd7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Kxd7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Na7 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb1 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb2 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb3 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb4 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb5 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb6 - Actual move: 2Nbd7 - Distance: 2
Possible move: 2Nb7 - Actual move: 2Nbd7 - Distance: 1
Possible move: 2Nd7 - Actual move: 2Nbd7 - Distance: 1
Possible move: 2Nxd7 - Actual move: 2Nbd7 - Distance: 1
Possible move: 1a1 - Actual move: 1f4 - Distance: 2
Possible move: 1a2 - Actual move: 1f4 - Distance: 2
Possible move: 1a3 - Actual move: 1f4 - Distance: 2
Possible move: 1a4 - Actual move: 1f4 - Distance: 1
Possible move: 1b4 - Actual move: 1f4 - Distance: 1
Possible move: 1Bf4 - Actual move: 1f4 - Distance: 1
Possible move: 1c4 - Actual move: 1f4 - Distance: 1
Possible move: 1d4 - Actual move: 1f4 - Distance: 1
Possible move: 1e4 - Actual move: 1f4 - Distance: 1
Possible move: 1f1 - Actual move: 1f4 - Distance: 1
Possible move: 1f2 - Actual move: 1f4 - Distance: 1
Possible move: 1f3 - Actual move: 1f4 - Distance: 1
Possible move: 1f4 - Actual move: 1f4 - Distance: 0
Possible move: 1a1 - Actual move: 2Bb7 - Distance: 4
Possible move: 1a2 - Actual move: 2Bb7 - Distance: 4
Possible move: 1a3 - Actual move: 2Bb7 - Distance: 4
Possible move: 1a4 - Actual move: 2Bb7 - Distance: 4
Possible move: 1a5 - Actual move: 2Bb7 - Distance: 4
Possible move: 1a6 - Actual move: 2Bb7 - Distance: 4
Possible move: 1a7 - Actual move: 2Bb7 - Distance: 3
Possible move: 1axb7 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b1 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b2 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b3 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b4 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b5 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b6 - Actual move: 2Bb7 - Distance: 3
Possible move: 1b7 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Ba7 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb1 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb2 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb3 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb4 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb5 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb6 - Actual move: 2Bb7 - Distance: 2
Possible move: 1Bb7 - Actual move: 2Bb7 - Distance: 1
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Possible move: 2b7 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Ba7 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb1 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb2 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb3 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb4 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb5 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb6 - Actual move: 2Bb7 - Distance: 1
Possible move: 2Bb7 - Actual move: 2Bb7 - Distance: 0
Possible move: 1a1 - Actual move: 10-0 - Distance: 3
Possible move: 1a2 - Actual move: 10-0 - Distance: 3
Possible move: 1a3 - Actual move: 10-0 - Distance: 3
Possible move: 1a4 - Actual move: 10-0 - Distance: 3
Possible move: 1a5 - Actual move: 10-0 - Distance: 3
Possible move: 1a6 - Actual move: 10-0 - Distance: 3
Possible move: 1a7 - Actual move: 10-0 - Distance: 3
Possible move: 1a8 - Actual move: 10-0 - Distance: 3
Possible move: 1b1 - Actual move: 10-0 - Distance: 3
Possible move: 1b2 - Actual move: 10-0 - Distance: 3
Possible move: 1b3 - Actual move: 10-0 - Distance: 3
Possible move: 1b4 - Actual move: 10-0 - Distance: 3
Possible move: 1b5 - Actual move: 10-0 - Distance: 3
Possible move: 1b6 - Actual move: 10-0 - Distance: 3
Possible move: 1b7 - Actual move: 10-0 - Distance: 3
Possible move: 1b8 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba1 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba2 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba3 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba4 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba5 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba6 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba7 - Actual move: 10-0 - Distance: 3
Possible move: 1Ba8 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb1 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb2 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb3 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb4 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb5 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb6 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb7 - Actual move: 10-0 - Distance: 3
Possible move: 1Bb8 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc1 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc2 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc3 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc4 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc5 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc6 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc7 - Actual move: 10-0 - Distance: 3
Possible move: 1Bc8 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd1 - Actual move: 10-0 - Distance: 3
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Possible move: 1Bd2 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd3 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd4 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd5 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd6 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd7 - Actual move: 10-0 - Distance: 3
Possible move: 1Bd8 - Actual move: 10-0 - Distance: 3
Possible move: 1Be1 - Actual move: 10-0 - Distance: 3
Possible move: 1Be2 - Actual move: 10-0 - Distance: 3
Possible move: 1Be3 - Actual move: 10-0 - Distance: 3
Possible move: 1Be4 - Actual move: 10-0 - Distance: 3
Possible move: 1Be5 - Actual move: 10-0 - Distance: 3
Possible move: 1Be6 - Actual move: 10-0 - Distance: 3
Possible move: 1Be7 - Actual move: 10-0 - Distance: 3
Possible move: 1Be8 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf1 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf2 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf3 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf4 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf5 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf6 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf7 - Actual move: 10-0 - Distance: 3
Possible move: 1Bf8 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg1 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg2 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg3 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg4 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg5 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg6 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg7 - Actual move: 10-0 - Distance: 3
Possible move: 1Bg8 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh1 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh2 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh3 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh4 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh5 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh6 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh7 - Actual move: 10-0 - Distance: 3
Possible move: 1Bh8 - Actual move: 10-0 - Distance: 3
Possible move: 1c1 - Actual move: 10-0 - Distance: 3
Possible move: 1c2 - Actual move: 10-0 - Distance: 3
Possible move: 1c3 - Actual move: 10-0 - Distance: 3
Possible move: 1c4 - Actual move: 10-0 - Distance: 3
Possible move: 1c5 - Actual move: 10-0 - Distance: 3
Possible move: 1c6 - Actual move: 10-0 - Distance: 3
Possible move: 1c7 - Actual move: 10-0 - Distance: 3
Possible move: 1c8 - Actual move: 10-0 - Distance: 3
Possible move: 1d1 - Actual move: 10-0 - Distance: 3
Possible move: 1d2 - Actual move: 10-0 - Distance: 3
Possible move: 1d3 - Actual move: 10-0 - Distance: 3
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Possible move: 1d4 - Actual move: 10-0 - Distance: 3
Possible move: 1d5 - Actual move: 10-0 - Distance: 3
Possible move: 1d6 - Actual move: 10-0 - Distance: 3
Possible move: 1d7 - Actual move: 10-0 - Distance: 3
Possible move: 1d8 - Actual move: 10-0 - Distance: 3
Possible move: 1e1 - Actual move: 10-0 - Distance: 3
Possible move: 1e2 - Actual move: 10-0 - Distance: 3
Possible move: 1e3 - Actual move: 10-0 - Distance: 3
Possible move: 1e4 - Actual move: 10-0 - Distance: 3
Possible move: 1e5 - Actual move: 10-0 - Distance: 3
Possible move: 1e6 - Actual move: 10-0 - Distance: 3
Possible move: 1e7 - Actual move: 10-0 - Distance: 3
Possible move: 1e8 - Actual move: 10-0 - Distance: 3
Possible move: 1f1 - Actual move: 10-0 - Distance: 3
Possible move: 1f2 - Actual move: 10-0 - Distance: 3
Possible move: 1f3 - Actual move: 10-0 - Distance: 3
Possible move: 1f4 - Actual move: 10-0 - Distance: 3
Possible move: 1f5 - Actual move: 10-0 - Distance: 3
Possible move: 1f6 - Actual move: 10-0 - Distance: 3
Possible move: 1f7 - Actual move: 10-0 - Distance: 3
Possible move: 1f8 - Actual move: 10-0 - Distance: 3
Possible move: 1g1 - Actual move: 10-0 - Distance: 3
Possible move: 1g2 - Actual move: 10-0 - Distance: 3
Possible move: 1g3 - Actual move: 10-0 - Distance: 3
Possible move: 1g4 - Actual move: 10-0 - Distance: 3
Possible move: 1g5 - Actual move: 10-0 - Distance: 3
Possible move: 1g6 - Actual move: 10-0 - Distance: 3
Possible move: 1g7 - Actual move: 10-0 - Distance: 3
Possible move: 1g8 - Actual move: 10-0 - Distance: 3
Possible move: 1h1 - Actual move: 10-0 - Distance: 3
Possible move: 1h2 - Actual move: 10-0 - Distance: 3
Possible move: 1h3 - Actual move: 10-0 - Distance: 3
Possible move: 1h4 - Actual move: 10-0 - Distance: 3
Possible move: 1h5 - Actual move: 10-0 - Distance: 3
Possible move: 1h6 - Actual move: 10-0 - Distance: 3
Possible move: 1h7 - Actual move: 10-0 - Distance: 3
Possible move: 1h8 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka1 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka2 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka3 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka4 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka5 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka6 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka7 - Actual move: 10-0 - Distance: 3
Possible move: 1Ka8 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb1 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb2 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb3 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb4 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb5 - Actual move: 10-0 - Distance: 3
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Possible move: 1Kb6 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb7 - Actual move: 10-0 - Distance: 3
Possible move: 1Kb8 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc1 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc2 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc3 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc4 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc5 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc6 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc7 - Actual move: 10-0 - Distance: 3
Possible move: 1Kc8 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd1 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd2 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd3 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd4 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd5 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd6 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd7 - Actual move: 10-0 - Distance: 3
Possible move: 1Kd8 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke1 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke2 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke3 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke4 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke5 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke6 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke7 - Actual move: 10-0 - Distance: 3
Possible move: 1Ke8 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf1 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf2 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf3 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf4 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf5 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf6 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf7 - Actual move: 10-0 - Distance: 3
Possible move: 1Kf8 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg1 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg2 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg3 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg4 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg5 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg6 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg7 - Actual move: 10-0 - Distance: 3
Possible move: 1Kg8 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh1 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh2 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh3 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh4 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh5 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh6 - Actual move: 10-0 - Distance: 3
Possible move: 1Kh7 - Actual move: 10-0 - Distance: 3
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Possible move: 1Kh8 - Actual move: 10-0 - Distance: 3
Possible move: 1Na1 - Actual move: 10-0 - Distance: 3
Possible move: 1Na2 - Actual move: 10-0 - Distance: 3
Possible move: 1Na3 - Actual move: 10-0 - Distance: 3
Possible move: 1Na4 - Actual move: 10-0 - Distance: 3
Possible move: 1Na5 - Actual move: 10-0 - Distance: 3
Possible move: 1Na6 - Actual move: 10-0 - Distance: 3
Possible move: 1Na7 - Actual move: 10-0 - Distance: 3
Possible move: 1Na8 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb1 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb2 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb3 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb4 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb5 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb6 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb7 - Actual move: 10-0 - Distance: 3
Possible move: 1Nb8 - Actual move: 10-0 - Distance: 3
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Possible move: 1Nc3 - Actual move: 10-0 - Distance: 3
Possible move: 1Nc4 - Actual move: 10-0 - Distance: 3
Possible move: 1Nc5 - Actual move: 10-0 - Distance: 3
Possible move: 1Nc6 - Actual move: 10-0 - Distance: 3
Possible move: 1Nc7 - Actual move: 10-0 - Distance: 3
Possible move: 1Nc8 - Actual move: 10-0 - Distance: 3
Possible move: 1Nd1 - Actual move: 10-0 - Distance: 3
Possible move: 1Nd2 - Actual move: 10-0 - Distance: 3
Possible move: 1Nd3 - Actual move: 10-0 - Distance: 3
Possible move: 1Nd4 - Actual move: 10-0 - Distance: 3
Possible move: 1Nd5 - Actual move: 10-0 - Distance: 3
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Possible move: 1Nd8 - Actual move: 10-0 - Distance: 3
Possible move: 1Ne1 - Actual move: 10-0 - Distance: 3
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Possible move: 1Ne5 - Actual move: 10-0 - Distance: 3
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Possible move: 1Ne7 - Actual move: 10-0 - Distance: 3
Possible move: 1Ne8 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf1 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf2 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf3 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf4 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf5 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf6 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf7 - Actual move: 10-0 - Distance: 3
Possible move: 1Nf8 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng1 - Actual move: 10-0 - Distance: 3
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Possible move: 1Ng2 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng3 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng4 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng5 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng6 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng7 - Actual move: 10-0 - Distance: 3
Possible move: 1Ng8 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh1 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh2 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh3 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh4 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh5 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh6 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh7 - Actual move: 10-0 - Distance: 3
Possible move: 1Nh8 - Actual move: 10-0 - Distance: 3
Possible move: 10a1 - Actual move: 10-0 - Distance: 3
Possible move: 10a2 - Actual move: 10-0 - Distance: 3
Possible move: 1Qa3 - Actual move: 10-0 - Distance: 3
Possible move: 10a4 - Actual move: 10-0 - Distance: 3
Possible move: 1Qa5 - Actual move: 10-0 - Distance: 3
Possible move: 10a6 - Actual move: 10-0 - Distance: 3
Possible move: 10a7 - Actual move: 10-0 - Distance: 3
Possible move: 10a8 - Actual move: 10-0 - Distance: 3
Possible move: 10b1 - Actual move: 10-0 - Distance: 3
Possible move: 10b2 - Actual move: 10-0 - Distance: 3
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Possible move: 10b8 - Actual move: 10-0 - Distance: 3
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Possible move: 10c2 - Actual move: 10-0 - Distance: 3
Possible move: 10c3 - Actual move: 10-0 - Distance: 3
Possible move: 1Qc4 - Actual move: 10-0 - Distance: 3
Possible move: 10c5 - Actual move: 10-0 - Distance: 3
Possible move: 1Qc6 - Actual move: 10-0 - Distance: 3
Possible move: 10c7 - Actual move: 10-0 - Distance: 3
Possible move: 1Qc8 - Actual move: 10-0 - Distance: 3
Possible move: 1Qd1 - Actual move: 10-0 - Distance: 3
Possible move: 10d2 - Actual move: 10-0 - Distance: 3
Possible move: 1Qd3 - Actual move: 10-0 - Distance: 3
Possible move: 10d4 - Actual move: 10-0 - Distance: 3
Possible move: 10d5 - Actual move: 10-0 - Distance: 3
Possible move: 10d6 - Actual move: 10-0 - Distance: 3
Possible move: 10d7 - Actual move: 10-0 - Distance: 3
Possible move: 1Qd8 - Actual move: 10-0 - Distance: 3
Possible move: 10e1 - Actual move: 10-0 - Distance: 3
Possible move: 1Qe2 - Actual move: 10-0 - Distance: 3
Possible move: 10e3 - Actual move: 10-0 - Distance: 3
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Possible move: 10e4 - Actual move: 10-0 - Distance: 3
Possible move: 1Qe5 - Actual move: 10-0 - Distance: 3
Possible move: 10e6 - Actual move: 10-0 - Distance: 3
Possible move: 1Qe7 - Actual move: 10-0 - Distance: 3
Possible move: 10e8 - Actual move: 10-0 - Distance: 3
Possible move: 10f1 - Actual move: 10-0 - Distance: 3
Possible move: 10f2 - Actual move: 10-0 - Distance: 3
Possible move: 10f3 - Actual move: 10-0 - Distance: 3
Possible move: 10f4 - Actual move: 10-0 - Distance: 3
Possible move: 10f5 - Actual move: 10-0 - Distance: 3
Possible move: 10f6 - Actual move: 10-0 - Distance: 3
Possible move: 10f7 - Actual move: 10-0 - Distance: 3
Possible move: 10f8 - Actual move: 10-0 - Distance: 3
Possible move: 10q1 - Actual move: 10-0 - Distance: 3
Possible move: 10g2 - Actual move: 10-0 - Distance: 3
Possible move: 10g3 - Actual move: 10-0 - Distance: 3
Possible move: 10g4 - Actual move: 10-0 - Distance: 3
Possible move: 10g5 - Actual move: 10-0 - Distance: 3
Possible move: 10g6 - Actual move: 10-0 - Distance: 3
Possible move: 10g7 - Actual move: 10-0 - Distance: 3
Possible move: 10g8 - Actual move: 10-0 - Distance: 3
Possible move: 10h1 - Actual move: 10-0 - Distance: 3
Possible move: 10h2 - Actual move: 10-0 - Distance: 3
Possible move: 10h3 - Actual move: 10-0 - Distance: 3
Possible move: 10h4 - Actual move: 10-0 - Distance: 3
Possible move: 10h5 - Actual move: 10-0 - Distance: 3
Possible move: 10h6 - Actual move: 10-0 - Distance: 3
Possible move: 10h7 - Actual move: 10-0 - Distance: 3
Possible move: 10h8 - Actual move: 10-0 - Distance: 3
Possible move: 1Ra1 - Actual move: 10-0 - Distance: 3
Possible move: 1Ra2 - Actual move: 10-0 - Distance: 3
Possible move: 1Ra3 - Actual move: 10-0 - Distance: 3
Possible move: 1Ra4 - Actual move: 10-0 - Distance: 3
Possible move: 1Ra5 - Actual move: 10-0 - Distance: 3
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Possible move: 1Ra7 - Actual move: 10-0 - Distance: 3
Possible move: 1Ra8 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb1 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb2 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb3 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb4 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb5 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb6 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb7 - Actual move: 10-0 - Distance: 3
Possible move: 1Rb8 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc1 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc2 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc3 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc4 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc5 - Actual move: 10-0 - Distance: 3
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Possible move: 1Rc6 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc7 - Actual move: 10-0 - Distance: 3
Possible move: 1Rc8 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd1 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd2 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd3 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd4 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd5 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd6 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd7 - Actual move: 10-0 - Distance: 3
Possible move: 1Rd8 - Actual move: 10-0 - Distance: 3
Possible move: 1Re1 - Actual move: 10-0 - Distance: 3
Possible move: 1Re2 - Actual move: 10-0 - Distance: 3
Possible move: 1Re3 - Actual move: 10-0 - Distance: 3
Possible move: 1Re4 - Actual move: 10-0 - Distance: 3
Possible move: 1Re5 - Actual move: 10-0 - Distance: 3
Possible move: 1Re6 - Actual move: 10-0 - Distance: 3
Possible move: 1Re7 - Actual move: 10-0 - Distance: 3
Possible move: 1Re8 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf1 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf2 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf3 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf4 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf5 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf6 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf7 - Actual move: 10-0 - Distance: 3
Possible move: 1Rf8 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg1 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg2 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg3 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg4 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg5 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg6 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg7 - Actual move: 10-0 - Distance: 3
Possible move: 1Rg8 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh1 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh2 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh3 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh4 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh5 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh6 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh7 - Actual move: 10-0 - Distance: 3
Possible move: 1Rh8 - Actual move: 10-0 - Distance: 3
Possible move: 1a1 - Actual move: 20-0 - Distance: 4
Possible move: 1a2 - Actual move: 20-0 - Distance: 4
Possible move: 1a3 - Actual move: 20-0 - Distance: 4
Possible move: 1a4 - Actual move: 20-0 - Distance: 4
Possible move: 1a5 - Actual move: 20-0 - Distance: 4
Possible move: 1a6 - Actual move: 20-0 - Distance: 4
Possible move: 1a7 - Actual move: 20-0 - Distance: 4
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Possible move: 1a8 - Actual move: 20-0 - Distance: 4
Possible move: 1b1 - Actual move: 20-0 - Distance: 4
Possible move: 1b2 - Actual move: 20-0 - Distance: 4
Possible move: 1b3 - Actual move: 20-0 - Distance: 4
Possible move: 1b4 - Actual move: 20-0 - Distance: 4
Possible move: 1b5 - Actual move: 20-0 - Distance: 4
Possible move: 1b6 - Actual move: 20-0 - Distance: 4
Possible move: 1b7 - Actual move: 20-0 - Distance: 4
Possible move: 1b8 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba1 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba2 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba3 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba4 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba5 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba6 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba7 - Actual move: 20-0 - Distance: 4
Possible move: 1Ba8 - Actual move: 20-0 - Distance: 4
Possible move: 1Bb1 - Actual move: 20-0 - Distance: 4
Possible move: 1Bb2 - Actual move: 20-0 - Distance: 4
Possible move: 1Bb3 - Actual move: 20-0 - Distance: 4
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Possible move: 1Bb5 - Actual move: 20-0 - Distance: 4
Possible move: 1Bb6 - Actual move: 20-0 - Distance: 4
Possible move: 1Bb7 - Actual move: 20-0 - Distance: 4
Possible move: 1Bb8 - Actual move: 20-0 - Distance: 4
Possible move: 1Bc1 - Actual move: 20-0 - Distance: 4
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Possible move: 1Bc3 - Actual move: 20-0 - Distance: 4
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Possible move: 1Bc7 - Actual move: 20-0 - Distance: 4
Possible move: 1Bc8 - Actual move: 20-0 - Distance: 4
Possible move: 1Bd1 - Actual move: 20-0 - Distance: 4
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Possible move: 1Bd6 - Actual move: 20-0 - Distance: 4
Possible move: 1Bd7 - Actual move: 20-0 - Distance: 4
Possible move: 1Bd8 - Actual move: 20-0 - Distance: 4
Possible move: 1Be1 - Actual move: 20-0 - Distance: 4
Possible move: 1Be2 - Actual move: 20-0 - Distance: 4
Possible move: 1Be3 - Actual move: 20-0 - Distance: 4
Possible move: 1Be4 - Actual move: 20-0 - Distance: 4
Possible move: 1Be5 - Actual move: 20-0 - Distance: 4
Possible move: 1Be6 - Actual move: 20-0 - Distance: 4
Possible move: 1Be7 - Actual move: 20-0 - Distance: 4
Possible move: 1Be8 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf1 - Actual move: 20-0 - Distance: 4
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Possible move: 1Bf2 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf3 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf4 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf5 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf6 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf7 - Actual move: 20-0 - Distance: 4
Possible move: 1Bf8 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg1 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg2 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg3 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg4 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg5 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg6 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg7 - Actual move: 20-0 - Distance: 4
Possible move: 1Bg8 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh1 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh2 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh3 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh4 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh5 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh6 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh7 - Actual move: 20-0 - Distance: 4
Possible move: 1Bh8 - Actual move: 20-0 - Distance: 4
Possible move: 1c1 - Actual move: 20-0 - Distance: 4
Possible move: 1c2 - Actual move: 20-0 - Distance: 4
Possible move: 1c3 - Actual move: 20-0 - Distance: 4
Possible move: 1c4 - Actual move: 20-0 - Distance: 4
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Possible move: 1c8 - Actual move: 20-0 - Distance: 4
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Possible move: 1d3 - Actual move: 20-0 - Distance: 4
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Possible move: 1d7 - Actual move: 20-0 - Distance: 4
Possible move: 1d8 - Actual move: 20-0 - Distance: 4
Possible move: 1e1 - Actual move: 20-0 - Distance: 4
Possible move: 1e2 - Actual move: 20-0 - Distance: 4
Possible move: 1e3 - Actual move: 20-0 - Distance: 4
Possible move: 1e4 - Actual move: 20-0 - Distance: 4
Possible move: 1e5 - Actual move: 20-0 - Distance: 4
Possible move: 1e6 - Actual move: 20-0 - Distance: 4
Possible move: 1e7 - Actual move: 20-0 - Distance: 4
Possible move: 1e8 - Actual move: 20-0 - Distance: 4
Possible move: 1f1 - Actual move: 20-0 - Distance: 4
Possible move: 1f2 - Actual move: 20-0 - Distance: 4
Possible move: 1f3 - Actual move: 20-0 - Distance: 4
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Possible move: 1f4 - Actual move: 20-0 - Distance: 4
Possible move: 1f5 - Actual move: 20-0 - Distance: 4
Possible move: 1f6 - Actual move: 20-0 - Distance: 4
Possible move: 1f7 - Actual move: 20-0 - Distance: 4
Possible move: 1f8 - Actual move: 20-0 - Distance: 4
Possible move: 1g1 - Actual move: 20-0 - Distance: 4
Possible move: 1g2 - Actual move: 20-0 - Distance: 4
Possible move: 1g3 - Actual move: 20-0 - Distance: 4
Possible move: 1g4 - Actual move: 20-0 - Distance: 4
Possible move: 1g5 - Actual move: 20-0 - Distance: 4
Possible move: 1g6 - Actual move: 20-0 - Distance: 4
Possible move: 1g7 - Actual move: 20-0 - Distance: 4
Possible move: 1g8 - Actual move: 20-0 - Distance: 4
Possible move: 1h1 - Actual move: 20-0 - Distance: 4
Possible move: 1h2 - Actual move: 20-0 - Distance: 4
Possible move: 1h3 - Actual move: 20-0 - Distance: 4
Possible move: 1h4 - Actual move: 20-0 - Distance: 4
Possible move: 1h5 - Actual move: 20-0 - Distance: 4
Possible move: 1h6 - Actual move: 20-0 - Distance: 4
Possible move: 1h7 - Actual move: 20-0 - Distance: 4
Possible move: 1h8 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka1 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka2 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka3 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka4 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka5 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka6 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka7 - Actual move: 20-0 - Distance: 4
Possible move: 1Ka8 - Actual move: 20-0 - Distance: 4
Possible move: 1Kb1 - Actual move: 20-0 - Distance: 4
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Possible move: 1Kb3 - Actual move: 20-0 - Distance: 4
Possible move: 1Kb4 - Actual move: 20-0 - Distance: 4
Possible move: 1Kb5 - Actual move: 20-0 - Distance: 4
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Possible move: 1Kb7 - Actual move: 20-0 - Distance: 4
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Possible move: 1Kc1 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc2 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc3 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc4 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc5 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc6 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc7 - Actual move: 20-0 - Distance: 4
Possible move: 1Kc8 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd1 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd2 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd3 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd4 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd5 - Actual move: 20-0 - Distance: 4
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Possible move: 1Kd6 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd7 - Actual move: 20-0 - Distance: 4
Possible move: 1Kd8 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke1 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke2 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke3 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke4 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke5 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke6 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke7 - Actual move: 20-0 - Distance: 4
Possible move: 1Ke8 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf1 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf2 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf3 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf4 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf5 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf6 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf7 - Actual move: 20-0 - Distance: 4
Possible move: 1Kf8 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg1 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg2 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg3 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg4 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg5 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg6 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg7 - Actual move: 20-0 - Distance: 4
Possible move: 1Kg8 - Actual move: 20-0 - Distance: 4
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Possible move: 1Kh7 - Actual move: 20-0 - Distance: 4
Possible move: 1Kh8 - Actual move: 20-0 - Distance: 4
Possible move: 1Na1 - Actual move: 20-0 - Distance: 4
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Possible move: 1Na8 - Actual move: 20-0 - Distance: 4
Possible move: 1Nb1 - Actual move: 20-0 - Distance: 4
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Possible move: 1Nb6 - Actual move: 20-0 - Distance: 4
Possible move: 1Nb7 - Actual move: 20-0 - Distance: 4
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Possible move: 1Nb8 - Actual move: 20-0 - Distance: 4
Possible move: 1Nc1 - Actual move: 20-0 - Distance: 4
Possible move: 1Nc2 - Actual move: 20-0 - Distance: 4
Possible move: 1Nc3 - Actual move: 20-0 - Distance: 4
Possible move: 1Nc4 - Actual move: 20-0 - Distance: 4
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Possible move: 1Nc6 - Actual move: 20-0 - Distance: 4
Possible move: 1Nc7 - Actual move: 20-0 - Distance: 4
Possible move: 1Nc8 - Actual move: 20-0 - Distance: 4
Possible move: 1Nd1 - Actual move: 20-0 - Distance: 4
Possible move: 1Nd2 - Actual move: 20-0 - Distance: 4
Possible move: 1Nd3 - Actual move: 20-0 - Distance: 4
Possible move: 1Nd4 - Actual move: 20-0 - Distance: 4
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Possible move: 1Nd7 - Actual move: 20-0 - Distance: 4
Possible move: 1Nd8 - Actual move: 20-0 - Distance: 4
Possible move: 1Ne1 - Actual move: 20-0 - Distance: 4
Possible move: 1Ne2 - Actual move: 20-0 - Distance: 4
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Possible move: 1Ne4 - Actual move: 20-0 - Distance: 4
Possible move: 1Ne5 - Actual move: 20-0 - Distance: 4
Possible move: 1Ne6 - Actual move: 20-0 - Distance: 4
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Possible move: 1Ng8 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh1 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh2 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh3 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh4 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh5 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh6 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh7 - Actual move: 20-0 - Distance: 4
Possible move: 1Nh8 - Actual move: 20-0 - Distance: 4
Possible move: 10a1 - Actual move: 20-0 - Distance: 4
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Possible move: 10a2 - Actual move: 20-0 - Distance: 4
Possible move: 10a3 - Actual move: 20-0 - Distance: 4
Possible move: 10a4 - Actual move: 20-0 - Distance: 4
Possible move: 1Qa5 - Actual move: 20-0 - Distance: 4
Possible move: 10a6 - Actual move: 20-0 - Distance: 4
Possible move: 10a7 - Actual move: 20-0 - Distance: 4
Possible move: 10a8 - Actual move: 20-0 - Distance: 4
Possible move: 10b1 - Actual move: 20-0 - Distance: 4
Possible move: 1Qb2 - Actual move: 20-0 - Distance: 4
Possible move: 10b3 - Actual move: 20-0 - Distance: 4
Possible move: 10b4 - Actual move: 20-0 - Distance: 4
Possible move: 10b5 - Actual move: 20-0 - Distance: 4
Possible move: 10b6 - Actual move: 20-0 - Distance: 4
Possible move: 10b7 - Actual move: 20-0 - Distance: 4
Possible move: 10b8 - Actual move: 20-0 - Distance: 4
Possible move: 1Qc1 - Actual move: 20-0 - Distance: 4
Possible move: 10c2 - Actual move: 20-0 - Distance: 4
Possible move: 1Qc3 - Actual move: 20-0 - Distance: 4
Possible move: 10c4 - Actual move: 20-0 - Distance: 4
Possible move: 1Qc5 - Actual move: 20-0 - Distance: 4
Possible move: 1Qc6 - Actual move: 20-0 - Distance: 4
Possible move: 10c7 - Actual move: 20-0 - Distance: 4
Possible move: 10c8 - Actual move: 20-0 - Distance: 4
Possible move: 10d1 - Actual move: 20-0 - Distance: 4
Possible move: 10d2 - Actual move: 20-0 - Distance: 4
Possible move: 1Qd3 - Actual move: 20-0 - Distance: 4
Possible move: 10d4 - Actual move: 20-0 - Distance: 4
Possible move: 10d5 - Actual move: 20-0 - Distance: 4
Possible move: 10d6 - Actual move: 20-0 - Distance: 4
Possible move: 1Qd7 - Actual move: 20-0 - Distance: 4
Possible move: 10d8 - Actual move: 20-0 - Distance: 4
Possible move: 10e1 - Actual move: 20-0 - Distance: 4
Possible move: 10e2 - Actual move: 20-0 - Distance: 4
Possible move: 10e3 - Actual move: 20-0 - Distance: 4
Possible move: 1Qe4 - Actual move: 20-0 - Distance: 4
Possible move: 1Qe5 - Actual move: 20-0 - Distance: 4
Possible move: 1Qe6 - Actual move: 20-0 - Distance: 4
Possible move: 10e7 - Actual move: 20-0 - Distance: 4
Possible move: 1Qe8 - Actual move: 20-0 - Distance: 4
Possible move: 1Qf1 - Actual move: 20-0 - Distance: 4
Possible move: 10f2 - Actual move: 20-0 - Distance: 4
Possible move: 1Qf3 - Actual move: 20-0 - Distance: 4
Possible move: 10f4 - Actual move: 20-0 - Distance: 4
Possible move: 10f5 - Actual move: 20-0 - Distance: 4
Possible move: 10f6 - Actual move: 20-0 - Distance: 4
Possible move: 10f7 - Actual move: 20-0 - Distance: 4
Possible move: 10f8 - Actual move: 20-0 - Distance: 4
Possible move: 10g1 - Actual move: 20-0 - Distance: 4
Possible move: 1Qg2 - Actual move: 20-0 - Distance: 4
Possible move: 10g3 - Actual move: 20-0 - Distance: 4
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Possible move: 10g4 - Actual move: 20-0 - Distance: 4
Possible move: 1Qg5 - Actual move: 20-0 - Distance: 4
Possible move: 10g6 - Actual move: 20-0 - Distance: 4
Possible move: 10g7 - Actual move: 20-0 - Distance: 4
Possible move: 10g8 - Actual move: 20-0 - Distance: 4
Possible move: 1Qh1 - Actual move: 20-0 - Distance: 4
Possible move: 10h2 - Actual move: 20-0 - Distance: 4
Possible move: 10h3 - Actual move: 20-0 - Distance: 4
Possible move: 1Qh4 - Actual move: 20-0 - Distance: 4
Possible move: 10h5 - Actual move: 20-0 - Distance: 4
Possible move: 10h6 - Actual move: 20-0 - Distance: 4
Possible move: 10h7 - Actual move: 20-0 - Distance: 4
Possible move: 10h8 - Actual move: 20-0 - Distance: 4
Possible move: 1Ra1 - Actual move: 20-0 - Distance: 4
Possible move: 1Ra2 - Actual move: 20-0 - Distance: 4
Possible move: 1Ra3 - Actual move: 20-0 - Distance: 4
Possible move: 1Ra4 - Actual move: 20-0 - Distance: 4
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Possible move: 1Ra6 - Actual move: 20-0 - Distance: 4
Possible move: 1Ra7 - Actual move: 20-0 - Distance: 4
Possible move: 1Ra8 - Actual move: 20-0 - Distance: 4
Possible move: 1Rb1 - Actual move: 20-0 - Distance: 4
Possible move: 1Rb2 - Actual move: 20-0 - Distance: 4
Possible move: 1Rb3 - Actual move: 20-0 - Distance: 4
Possible move: 1Rb4 - Actual move: 20-0 - Distance: 4
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Possible move: 1Rb7 - Actual move: 20-0 - Distance: 4
Possible move: 1Rb8 - Actual move: 20-0 - Distance: 4
Possible move: 1Rc1 - Actual move: 20-0 - Distance: 4
Possible move: 1Rc2 - Actual move: 20-0 - Distance: 4
Possible move: 1Rc3 - Actual move: 20-0 - Distance: 4
Possible move: 1Rc4 - Actual move: 20-0 - Distance: 4
Possible move: 1Rc5 - Actual move: 20-0 - Distance: 4
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Possible move: 1Rc7 - Actual move: 20-0 - Distance: 4
Possible move: 1Rc8 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd1 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd2 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd3 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd4 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd5 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd6 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd7 - Actual move: 20-0 - Distance: 4
Possible move: 1Rd8 - Actual move: 20-0 - Distance: 4
Possible move: 1Re1 - Actual move: 20-0 - Distance: 4
Possible move: 1Re2 - Actual move: 20-0 - Distance: 4
Possible move: 1Re3 - Actual move: 20-0 - Distance: 4
Possible move: 1Re4 - Actual move: 20-0 - Distance: 4
Possible move: 1Re5 - Actual move: 20-0 - Distance: 4
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Possible move: 1Re6 - Actual move: 20-0 - Distance: 4
Possible move: 1Re7 - Actual move: 20-0 - Distance: 4
Possible move: 1Re8 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf1 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf2 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf3 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf4 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf5 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf6 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf7 - Actual move: 20-0 - Distance: 4
Possible move: 1Rf8 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg1 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg2 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg3 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg4 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg5 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg6 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg7 - Actual move: 20-0 - Distance: 4
Possible move: 1Rg8 - Actual move: 20-0 - Distance: 4
Possible move: 1Rh1 - Actual move: 20-0 - Distance: 4
Possible move: 1Rh2 - Actual move: 20-0 - Distance: 4
Possible move: 1Rh3 - Actual move: 20-0 - Distance: 4
Possible move: 1Rh4 - Actual move: 20-0 - Distance: 4
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Possible move: 1Rh6 - Actual move: 20-0 - Distance: 4
Possible move: 1Rh7 - Actual move: 20-0 - Distance: 4
Possible move: 1Rh8 - Actual move: 20-0 - Distance: 4
Possible move: 2a1 - Actual move: 20-0 - Distance: 3
Possible move: 2a2 - Actual move: 20-0 - Distance: 3
Possible move: 2a3 - Actual move: 20-0 - Distance: 3
Possible move: 2a4 - Actual move: 20-0 - Distance: 3
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Possible move: 2a7 - Actual move: 20-0 - Distance: 3
Possible move: 2a8 - Actual move: 20-0 - Distance: 3
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Possible move: 2b4 - Actual move: 20-0 - Distance: 3
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Possible move: 2b7 - Actual move: 20-0 - Distance: 3
Possible move: 2b8 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba1 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba2 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba3 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba4 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba5 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba6 - Actual move: 20-0 - Distance: 3
Possible move: 2Ba7 - Actual move: 20-0 - Distance: 3
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Possible move: 2Ba8 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb1 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb2 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb3 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb4 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb5 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb6 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb7 - Actual move: 20-0 - Distance: 3
Possible move: 2Bb8 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc1 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc2 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc3 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc4 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc5 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc6 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc7 - Actual move: 20-0 - Distance: 3
Possible move: 2Bc8 - Actual move: 20-0 - Distance: 3
Possible move: 2Bd1 - Actual move: 20-0 - Distance: 3
Possible move: 2Bd2 - Actual move: 20-0 - Distance: 3
Possible move: 2Bd3 - Actual move: 20-0 - Distance: 3
Possible move: 2Bd4 - Actual move: 20-0 - Distance: 3
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Possible move: 2Bd7 - Actual move: 20-0 - Distance: 3
Possible move: 2Bd8 - Actual move: 20-0 - Distance: 3
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Possible move: 2Be2 - Actual move: 20-0 - Distance: 3
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Possible move: 2Bf4 - Actual move: 20-0 - Distance: 3
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Possible move: 2Bf7 - Actual move: 20-0 - Distance: 3
Possible move: 2Bf8 - Actual move: 20-0 - Distance: 3
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Possible move: 2Bg4 - Actual move: 20-0 - Distance: 3
Possible move: 2Bg5 - Actual move: 20-0 - Distance: 3
Possible move: 2Bg6 - Actual move: 20-0 - Distance: 3
Possible move: 2Bq7 - Actual move: 20-0 - Distance: 3
Possible move: 2Bg8 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh1 - Actual move: 20-0 - Distance: 3
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Possible move: 2Bh2 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh3 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh4 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh5 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh6 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh7 - Actual move: 20-0 - Distance: 3
Possible move: 2Bh8 - Actual move: 20-0 - Distance: 3
Possible move: 2c1 - Actual move: 20-0 - Distance: 3
Possible move: 2c2 - Actual move: 20-0 - Distance: 3
Possible move: 2c3 - Actual move: 20-0 - Distance: 3
Possible move: 2c4 - Actual move: 20-0 - Distance: 3
Possible move: 2c5 - Actual move: 20-0 - Distance: 3
Possible move: 2c6 - Actual move: 20-0 - Distance: 3
Possible move: 2c7 - Actual move: 20-0 - Distance: 3
Possible move: 2c8 - Actual move: 20-0 - Distance: 3
Possible move: 2d1 - Actual move: 20-0 - Distance: 3
Possible move: 2d2 - Actual move: 20-0 - Distance: 3
Possible move: 2d3 - Actual move: 20-0 - Distance: 3
Possible move: 2d4 - Actual move: 20-0 - Distance: 3
Possible move: 2d5 - Actual move: 20-0 - Distance: 3
Possible move: 2d6 - Actual move: 20-0 - Distance: 3
Possible move: 2d7 - Actual move: 20-0 - Distance: 3
Possible move: 2d8 - Actual move: 20-0 - Distance: 3
Possible move: 2e1 - Actual move: 20-0 - Distance: 3
Possible move: 2e2 - Actual move: 20-0 - Distance: 3
Possible move: 2e3 - Actual move: 20-0 - Distance: 3
Possible move: 2e4 - Actual move: 20-0 - Distance: 3
Possible move: 2e5 - Actual move: 20-0 - Distance: 3
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Possible move: 2e8 - Actual move: 20-0 - Distance: 3
Possible move: 2f1 - Actual move: 20-0 - Distance: 3
Possible move: 2f2 - Actual move: 20-0 - Distance: 3
Possible move: 2f3 - Actual move: 20-0 - Distance: 3
Possible move: 2f4 - Actual move: 20-0 - Distance: 3
Possible move: 2f5 - Actual move: 20-0 - Distance: 3
Possible move: 2f6 - Actual move: 20-0 - Distance: 3
Possible move: 2f7 - Actual move: 20-0 - Distance: 3
Possible move: 2f8 - Actual move: 20-0 - Distance: 3
Possible move: 2g1 - Actual move: 20-0 - Distance: 3
Possible move: 2g2 - Actual move: 20-0 - Distance: 3
Possible move: 2g3 - Actual move: 20-0 - Distance: 3
Possible move: 2g4 - Actual move: 20-0 - Distance: 3
Possible move: 2g5 - Actual move: 20-0 - Distance: 3
Possible move: 2g6 - Actual move: 20-0 - Distance: 3
Possible move: 2q7 - Actual move: 20-0 - Distance: 3
Possible move: 2g8 - Actual move: 20-0 - Distance: 3
Possible move: 2h1 - Actual move: 20-0 - Distance: 3
Possible move: 2h2 - Actual move: 20-0 - Distance: 3
Possible move: 2h3 - Actual move: 20-0 - Distance: 3
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Possible move: 2h4 - Actual move: 20-0 - Distance: 3
Possible move: 2h5 - Actual move: 20-0 - Distance: 3
Possible move: 2h6 - Actual move: 20-0 - Distance: 3
Possible move: 2h7 - Actual move: 20-0 - Distance: 3
Possible move: 2h8 - Actual move: 20-0 - Distance: 3
Possible move: 2Ka1 - Actual move: 20-0 - Distance: 3
Possible move: 2Ka2 - Actual move: 20-0 - Distance: 3
Possible move: 2Ka3 - Actual move: 20-0 - Distance: 3
Possible move: 2Ka4 - Actual move: 20-0 - Distance: 3
Possible move: 2Ka5 - Actual move: 20-0 - Distance: 3
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Possible move: 2Ka7 - Actual move: 20-0 - Distance: 3
Possible move: 2Ka8 - Actual move: 20-0 - Distance: 3
Possible move: 2Kb1 - Actual move: 20-0 - Distance: 3
Possible move: 2Kb2 - Actual move: 20-0 - Distance: 3
Possible move: 2Kb3 - Actual move: 20-0 - Distance: 3
Possible move: 2Kb4 - Actual move: 20-0 - Distance: 3
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Possible move: 2Kb7 - Actual move: 20-0 - Distance: 3
Possible move: 2Kb8 - Actual move: 20-0 - Distance: 3
Possible move: 2Kc1 - Actual move: 20-0 - Distance: 3
Possible move: 2Kc2 - Actual move: 20-0 - Distance: 3
Possible move: 2Kc3 - Actual move: 20-0 - Distance: 3
Possible move: 2Kc4 - Actual move: 20-0 - Distance: 3
Possible move: 2Kc5 - Actual move: 20-0 - Distance: 3
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Possible move: 2Kc7 - Actual move: 20-0 - Distance: 3
Possible move: 2Kc8 - Actual move: 20-0 - Distance: 3
Possible move: 2Kd1 - Actual move: 20-0 - Distance: 3
Possible move: 2Kd2 - Actual move: 20-0 - Distance: 3
Possible move: 2Kd3 - Actual move: 20-0 - Distance: 3
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Possible move: 2Kd8 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke1 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke2 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke3 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke4 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke5 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke6 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke7 - Actual move: 20-0 - Distance: 3
Possible move: 2Ke8 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf1 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf2 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf3 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf4 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf5 - Actual move: 20-0 - Distance: 3
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Possible move: 2Kf6 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf7 - Actual move: 20-0 - Distance: 3
Possible move: 2Kf8 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg1 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg2 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg3 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg4 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg5 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg6 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg7 - Actual move: 20-0 - Distance: 3
Possible move: 2Kg8 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh1 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh2 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh3 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh4 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh5 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh6 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh7 - Actual move: 20-0 - Distance: 3
Possible move: 2Kh8 - Actual move: 20-0 - Distance: 3
Possible move: 2Na1 - Actual move: 20-0 - Distance: 3
Possible move: 2Na2 - Actual move: 20-0 - Distance: 3
Possible move: 2Na3 - Actual move: 20-0 - Distance: 3
Possible move: 2Na4 - Actual move: 20-0 - Distance: 3
Possible move: 2Na5 - Actual move: 20-0 - Distance: 3
Possible move: 2Na6 - Actual move: 20-0 - Distance: 3
Possible move: 2Na7 - Actual move: 20-0 - Distance: 3
Possible move: 2Na8 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb1 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb2 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb3 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb4 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb5 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb6 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb7 - Actual move: 20-0 - Distance: 3
Possible move: 2Nb8 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc1 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc2 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc3 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc4 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc5 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc6 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc7 - Actual move: 20-0 - Distance: 3
Possible move: 2Nc8 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd1 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd2 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd3 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd4 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd5 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd6 - Actual move: 20-0 - Distance: 3
Possible move: 2Nd7 - Actual move: 20-0 - Distance: 3
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Possible move: 2Nd8 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne1 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne2 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne3 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne4 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne5 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne6 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne7 - Actual move: 20-0 - Distance: 3
Possible move: 2Ne8 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf1 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf2 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf3 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf4 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf5 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf6 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf7 - Actual move: 20-0 - Distance: 3
Possible move: 2Nf8 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng1 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng2 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng3 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng4 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng5 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng6 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng7 - Actual move: 20-0 - Distance: 3
Possible move: 2Ng8 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh1 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh2 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh3 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh4 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh5 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh6 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh7 - Actual move: 20-0 - Distance: 3
Possible move: 2Nh8 - Actual move: 20-0 - Distance: 3
Possible move: 20a1 - Actual move: 20-0 - Distance: 3
Possible move: 2Qa2 - Actual move: 20-0 - Distance: 3
Possible move: 20a3 - Actual move: 20-0 - Distance: 3
Possible move: 2Qa4 - Actual move: 20-0 - Distance: 3
Possible move: 20a5 - Actual move: 20-0 - Distance: 3
Possible move: 2Qa6 - Actual move: 20-0 - Distance: 3
Possible move: 20a7 - Actual move: 20-0 - Distance: 3
Possible move: 20a8 - Actual move: 20-0 - Distance: 3
Possible move: 20b1 - Actual move: 20-0 - Distance: 3
Possible move: 20b2 - Actual move: 20-0 - Distance: 3
Possible move: 20b3 - Actual move: 20-0 - Distance: 3
Possible move: 20b4 - Actual move: 20-0 - Distance: 3
Possible move: 20b5 - Actual move: 20-0 - Distance: 3
Possible move: 20b6 - Actual move: 20-0 - Distance: 3
Possible move: 20b7 - Actual move: 20-0 - Distance: 3
Possible move: 20b8 - Actual move: 20-0 - Distance: 3
Possible move: 20c1 - Actual move: 20-0 - Distance: 3
```

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Possible move: 20c2 - Actual move: 20-0 - Distance: 3
Possible move: 20c3 - Actual move: 20-0 - Distance: 3
Possible move: 20c4 - Actual move: 20-0 - Distance: 3
Possible move: 2Qc5 - Actual move: 20-0 - Distance: 3
Possible move: 2Qc6 - Actual move: 20-0 - Distance: 3
Possible move: 2Qc7 - Actual move: 20-0 - Distance: 3
Possible move: 20c8 - Actual move: 20-0 - Distance: 3
Possible move: 20d1 - Actual move: 20-0 - Distance: 3
Possible move: 2Qd2 - Actual move: 20-0 - Distance: 3
Possible move: 20d3 - Actual move: 20-0 - Distance: 3
Possible move: 2Qd4 - Actual move: 20-0 - Distance: 3
Possible move: 20d5 - Actual move: 20-0 - Distance: 3
Possible move: 20d6 - Actual move: 20-0 - Distance: 3
Possible move: 2Qd7 - Actual move: 20-0 - Distance: 3
Possible move: 20d8 - Actual move: 20-0 - Distance: 3
Possible move: 2Qe1 - Actual move: 20-0 - Distance: 3
Possible move: 20e2 - Actual move: 20-0 - Distance: 3
Possible move: 2Qe3 - Actual move: 20-0 - Distance: 3
Possible move: 20e4 - Actual move: 20-0 - Distance: 3
Possible move: 2Qe5 - Actual move: 20-0 - Distance: 3
Possible move: 20e6 - Actual move: 20-0 - Distance: 3
Possible move: 20e7 - Actual move: 20-0 - Distance: 3
Possible move: 20e8 - Actual move: 20-0 - Distance: 3
Possible move: 20f1 - Actual move: 20-0 - Distance: 3
Possible move: 20f2 - Actual move: 20-0 - Distance: 3
Possible move: 20f3 - Actual move: 20-0 - Distance: 3
Possible move: 20f4 - Actual move: 20-0 - Distance: 3
Possible move: 2Qf5 - Actual move: 20-0 - Distance: 3
Possible move: 20f6 - Actual move: 20-0 - Distance: 3
Possible move: 2Qf7 - Actual move: 20-0 - Distance: 3
Possible move: 20f8 - Actual move: 20-0 - Distance: 3
Possible move: 20g1 - Actual move: 20-0 - Distance: 3
Possible move: 20g2 - Actual move: 20-0 - Distance: 3
Possible move: 20g3 - Actual move: 20-0 - Distance: 3
Possible move: 20g4 - Actual move: 20-0 - Distance: 3
Possible move: 2Qg5 - Actual move: 20-0 - Distance: 3
Possible move: 20g6 - Actual move: 20-0 - Distance: 3
Possible move: 20g7 - Actual move: 20-0 - Distance: 3
Possible move: 20g8 - Actual move: 20-0 - Distance: 3
Possible move: 20h1 - Actual move: 20-0 - Distance: 3
Possible move: 20h2 - Actual move: 20-0 - Distance: 3
Possible move: 20h3 - Actual move: 20-0 - Distance: 3
Possible move: 20h4 - Actual move: 20-0 - Distance: 3
Possible move: 20h5 - Actual move: 20-0 - Distance: 3
Possible move: 20h6 - Actual move: 20-0 - Distance: 3
Possible move: 20h7 - Actual move: 20-0 - Distance: 3
Possible move: 20h8 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra1 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra2 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra3 - Actual move: 20-0 - Distance: 3
```

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```
Possible move: 2Ra4 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra5 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra6 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra7 - Actual move: 20-0 - Distance: 3
Possible move: 2Ra8 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb1 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb2 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb3 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb4 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb5 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb6 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb7 - Actual move: 20-0 - Distance: 3
Possible move: 2Rb8 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc1 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc2 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc3 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc4 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc5 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc6 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc7 - Actual move: 20-0 - Distance: 3
Possible move: 2Rc8 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd1 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd2 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd3 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd4 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd5 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd6 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd7 - Actual move: 20-0 - Distance: 3
Possible move: 2Rd8 - Actual move: 20-0 - Distance: 3
Possible move: 2Re1 - Actual move: 20-0 - Distance: 3
Possible move: 2Re2 - Actual move: 20-0 - Distance: 3
Possible move: 2Re3 - Actual move: 20-0 - Distance: 3
Possible move: 2Re4 - Actual move: 20-0 - Distance: 3
Possible move: 2Re5 - Actual move: 20-0 - Distance: 3
Possible move: 2Re6 - Actual move: 20-0 - Distance: 3
Possible move: 2Re7 - Actual move: 20-0 - Distance: 3
Possible move: 2Re8 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf1 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf2 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf3 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf4 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf5 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf6 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf7 - Actual move: 20-0 - Distance: 3
Possible move: 2Rf8 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg1 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg2 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg3 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg4 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg5 - Actual move: 20-0 - Distance: 3
```

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```
Possible move: 2Rg6 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg7 - Actual move: 20-0 - Distance: 3
Possible move: 2Rg8 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh1 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh2 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh3 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh4 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh5 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh6 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh7 - Actual move: 20-0 - Distance: 3
Possible move: 2Rh8 - Actual move: 20-0 - Distance: 3
Possible move: 1a1 - Actual move: 1Rc1 - Distance: 2
Possible move: 1b1 - Actual move: 1Rc1 - Distance: 2
Possible move: 1Ba1 - Actual move: 1Rc1 - Distance: 2
Possible move: 1Bb1 - Actual move: 1Rc1 - Distance: 2
Possible move: 1Bc1 - Actual move: 1Rc1 - Distance: 1
Possible move: 1c1 - Actual move: 1Rc1 - Distance: 1
Possible move: 1Kc1 - Actual move: 1Rc1 - Distance: 1
Possible move: 1Nc1 - Actual move: 1Rc1 - Distance: 1
Possible move: 10c1 - Actual move: 1Rc1 - Distance: 1
Possible move: 1Ra1 - Actual move: 1Rc1 - Distance: 1
Possible move: 1Rb1 - Actual move: 1Rc1 - Distance: 1
Possible move: 1Rc1 - Actual move: 1Rc1 - Distance: 0
Possible move: 1a1 - Actual move: 2Nb6 - Distance: 4
Possible move: 1a2 - Actual move: 2Nb6 - Distance: 4
Possible move: 1a3 - Actual move: 2Nb6 - Distance: 4
Possible move: 1a4 - Actual move: 2Nb6 - Distance: 4
Possible move: 1a5 - Actual move: 2Nb6 - Distance: 4
Possible move: 1a6 - Actual move: 2Nb6 - Distance: 3
Possible move: 1axb6 - Actual move: 2Nb6 - Distance: 3
Possible move: 1b1 - Actual move: 2Nb6 - Distance: 3
Possible move: 1b2 - Actual move: 2Nb6 - Distance: 3
Possible move: 1b3 - Actual move: 2Nb6 - Distance: 3
Possible move: 1b4 - Actual move: 2Nb6 - Distance: 3
Possible move: 1b5 - Actual move: 2Nb6 - Distance: 3
Possible move: 1b6 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Bb6 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Kb6 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Na6 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Nb1 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Nb2 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Nb3 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Nb4 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Nb5 - Actual move: 2Nb6 - Distance: 2
Possible move: 1Nb6 - Actual move: 2Nb6 - Distance: 1
Possible move: 2b6 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Bb6 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Kb6 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Na6 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Nb1 - Actual move: 2Nb6 - Distance: 1
```

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```
Possible move: 2Nb2 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Nb3 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Nb4 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Nb5 - Actual move: 2Nb6 - Distance: 1
Possible move: 2Nb6 - Actual move: 2Nb6 - Distance: 0
Possible move: 1a1 - Actual move: 10f3 - Distance: 3
Possible move: 1a2 - Actual move: 1Qf3 - Distance: 3
Possible move: 1a3 - Actual move: 10f3 - Distance: 2
Possible move: 1b3 - Actual move: 10f3 - Distance: 2
Possible move: 1Ba3 - Actual move: 10f3 - Distance: 2
Possible move: 1Bb3 - Actual move: 1Qf3 - Distance: 2
Possible move: 1Bc3 - Actual move: 10f3 - Distance: 2
Possible move: 1Bd3 - Actual move: 1Qf3 - Distance: 2
Possible move: 1Be3 - Actual move: 1Qf3 - Distance: 2
Possible move: 1Bf1 - Actual move: 10f3 - Distance: 2
Possible move: 1Bf2 - Actual move: 1Qf3 - Distance: 2
Possible move: 1Bf3 - Actual move: 10f3 - Distance: 1
Possible move: 1f3 - Actual move: 1Qf3 - Distance: 1
Possible move: 1Kf3 - Actual move: 10f3 - Distance: 1
Possible move: 1Nf3 - Actual move: 10f3 - Distance: 1
Possible move: 10a3 - Actual move: 10f3 - Distance: 1
Possible move: 10b3 - Actual move: 10f3 - Distance: 1
Possible move: 1Qc3 - Actual move: 1Qf3 - Distance: 1
Possible move: 10d3 - Actual move: 10f3 - Distance: 1
Possible move: 10e3 - Actual move: 10f3 - Distance: 1
Possible move: 10f1 - Actual move: 10f3 - Distance: 1
Possible move: 10f2 - Actual move: 10f3 - Distance: 1
Possible move: 10f3 - Actual move: 10f3 - Distance: 0
Possible move: 1a1 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a2 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a3 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a4 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a5 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a6 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a7 - Actual move: 2Rc8 - Distance: 4
Possible move: 1a8 - Actual move: 2Rc8 - Distance: 3
Possible move: 1b8 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Ba8 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bb8 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc1 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc2 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc3 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc4 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc5 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc6 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc7 - Actual move: 2Rc8 - Distance: 3
Possible move: 1Bc8 - Actual move: 2Rc8 - Distance: 2
Possible move: 1c8 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Kc8 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Nc8 - Actual move: 2Rc8 - Distance: 2
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```
Possible move: 10c8 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Ra8 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rb8 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc1 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc2 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc3 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc4 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc5 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc6 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc7 - Actual move: 2Rc8 - Distance: 2
Possible move: 1Rc8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Bc8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2c8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Kc8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Nc8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Qc8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Ra8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rb8 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc1 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc2 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc3 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc4 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc5 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc6 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc7 - Actual move: 2Rc8 - Distance: 1
Possible move: 2Rc8 - Actual move: 2Rc8 - Distance: 0
Possible move: 1a1 - Actual move: 1Nb1 - Distance: 2
Possible move: 1axb1 - Actual move: 1Nb1 - Distance: 2
Possible move: 1b1 - Actual move: 1Nb1 - Distance: 1
Possible move: 1Bb1 - Actual move: 1Nb1 - Distance: 1
Possible move: 1Kb1 - Actual move: 1Nb1 - Distance: 1
Possible move: 1Na1 - Actual move: 1Nb1 - Distance: 1
Possible move: 1Nb1 - Actual move: 1Nb1 - Distance: 0
Possible move: 1a1 - Actual move: 20e7 - Distance: 4
Possible move: 1a2 - Actual move: 2Qe7 - Distance: 4
Possible move: 1a3 - Actual move: 20e7 - Distance: 4
Possible move: 1a4 - Actual move: 2Qe7 - Distance: 4
Possible move: 1a5 - Actual move: 2Qe7 - Distance: 4
Possible move: 1a6 - Actual move: 2Qe7 - Distance: 4
Possible move: 1a7 - Actual move: 20e7 - Distance: 3
Possible move: 1b7 - Actual move: 20e7 - Distance: 3
Possible move: 1Ba7 - Actual move: 20e7 - Distance: 3
Possible move: 1Bb7 - Actual move: 20e7 - Distance: 3
Possible move: 1Bc7 - Actual move: 2Qe7 - Distance: 3
Possible move: 1Bd7 - Actual move: 2Qe7 - Distance: 3
Possible move: 1Be1 - Actual move: 20e7 - Distance: 3
Possible move: 1Be2 - Actual move: 2Qe7 - Distance: 3
Possible move: 1Be3 - Actual move: 20e7 - Distance: 3
Possible move: 1Be4 - Actual move: 2Qe7 - Distance: 3
Possible move: 1Be5 - Actual move: 20e7 - Distance: 3
```

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```
Possible move: 1Be6 - Actual move: 2Qe7 - Distance: 3
Possible move: 1Be7 - Actual move: 20e7 - Distance: 2
Possible move: 1e7 - Actual move: 20e7 - Distance: 2
Possible move: 1Ke7 - Actual move: 2Qe7 - Distance: 2
Possible move: 1Ne7 - Actual move: 2Qe7 - Distance: 2
Possible move: 10a7 - Actual move: 20e7 - Distance: 2
Possible move: 10b7 - Actual move: 20e7 - Distance: 2
Possible move: 10c7 - Actual move: 20e7 - Distance: 2
Possible move: 1Qd7 - Actual move: 2Qe7 - Distance: 2
Possible move: 10e1 - Actual move: 20e7 - Distance: 2
Possible move: 1Qe2 - Actual move: 2Qe7 - Distance: 2
Possible move: 10e3 - Actual move: 20e7 - Distance: 2
Possible move: 10e4 - Actual move: 20e7 - Distance: 2
Possible move: 1Qe5 - Actual move: 2Qe7 - Distance: 2
Possible move: 10e6 - Actual move: 20e7 - Distance: 2
Possible move: 10e7 - Actual move: 20e7 - Distance: 1
Possible move: 2Be7 - Actual move: 20e7 - Distance: 1
Possible move: 2e7 - Actual move: 2Qe7 - Distance: 1
Possible move: 2Ke7 - Actual move: 20e7 - Distance: 1
Possible move: 2Ne7 - Actual move: 2Qe7 - Distance: 1
Possible move: 20a7 - Actual move: 20e7 - Distance: 1
Possible move: 20b7 - Actual move: 20e7 - Distance: 1
Possible move: 2Qc7 - Actual move: 2Qe7 - Distance: 1
Possible move: 20d7 - Actual move: 20e7 - Distance: 1
Possible move: 20e1 - Actual move: 20e7 - Distance: 1
Possible move: 2Qe2 - Actual move: 2Qe7 - Distance: 1
Possible move: 20e3 - Actual move: 20e7 - Distance: 1
Possible move: 20e4 - Actual move: 20e7 - Distance: 1
Possible move: 20e5 - Actual move: 20e7 - Distance: 1
Possible move: 2Qe6 - Actual move: 2Qe7 - Distance: 1
Possible move: 20e7 - Actual move: 20e7 - Distance: 0
Possible move: 1a1 - Actual move: 1b3 - Distance: 2
Possible move: 1a2 - Actual move: 1b3 - Distance: 2
Possible move: 1a3 - Actual move: 1b3 - Distance: 1
Possible move: 1b1 - Actual move: 1b3 - Distance: 1
Possible move: 1b2 - Actual move: 1b3 - Distance: 1
Possible move: 1b3 - Actual move: 1b3 - Distance: 0
Possible move: 1a1 - Actual move: 2Nc4 - Distance: 4
Possible move: 1a2 - Actual move: 2Nc4 - Distance: 4
Possible move: 1a3 - Actual move: 2Nc4 - Distance: 4
Possible move: 1a4 - Actual move: 2Nc4 - Distance: 3
Possible move: 1b4 - Actual move: 2Nc4 - Distance: 3
Possible move: 1Ba4 - Actual move: 2Nc4 - Distance: 3
Possible move: 1Bb4 - Actual move: 2Nc4 - Distance: 3
Possible move: 1Bc1 - Actual move: 2Nc4 - Distance: 3
Possible move: 1Bc2 - Actual move: 2Nc4 - Distance: 3
Possible move: 1Bc3 - Actual move: 2Nc4 - Distance: 3
Possible move: 1Bc4 - Actual move: 2Nc4 - Distance: 2
Possible move: 1c4 - Actual move: 2Nc4 - Distance: 2
Possible move: 1Kc4 - Actual move: 2Nc4 - Distance: 2
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Possible move: 1Na4 - Actual move: 2Nc4 - Distance: 2
Possible move: 1Nb4 - Actual move: 2Nc4 - Distance: 2
Possible move: 1Nc1 - Actual move: 2Nc4 - Distance: 2
Possible move: 1Nc2 - Actual move: 2Nc4 - Distance: 2
Possible move: 1Nc3 - Actual move: 2Nc4 - Distance: 2
Possible move: 1Nc4 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Bc4 - Actual move: 2Nc4 - Distance: 1
Possible move: 2c4 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Kc4 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Na4 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Nb4 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Nc1 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Nc2 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Nc3 - Actual move: 2Nc4 - Distance: 1
Possible move: 2Nc4 - Actual move: 2Nc4 - Distance: 0
Possible move: 1a1 - Actual move: 1Bc3 - Distance: 3
Possible move: 1a2 - Actual move: 1Bc3 - Distance: 3
Possible move: 1a3 - Actual move: 1Bc3 - Distance: 2
Possible move: 1b3 - Actual move: 1Bc3 - Distance: 2
Possible move: 1Ba1 - Actual move: 1Bc3 - Distance: 2
Possible move: 1Ba2 - Actual move: 1Bc3 - Distance: 2
Possible move: 1Ba3 - Actual move: 1Bc3 - Distance: 1
Possible move: 1Bb3 - Actual move: 1Bc3 - Distance: 1
Possible move: 1Bc1 - Actual move: 1Bc3 - Distance: 1
Possible move: 1Bc2 - Actual move: 1Bc3 - Distance: 1
Possible move: 1Bc3 - Actual move: 1Bc3 - Distance: 0
Possible move: 1a1 - Actual move: 2Na3 - Distance: 3
Possible move: 1a2 - Actual move: 2Na3 - Distance: 3
Possible move: 1a3 - Actual move: 2Na3 - Distance: 2
Possible move: 1Ba3 - Actual move: 2Na3 - Distance: 2
Possible move: 1Ka3 - Actual move: 2Na3 - Distance: 2
Possible move: 1Na1 - Actual move: 2Na3 - Distance: 2
Possible move: 1Na2 - Actual move: 2Na3 - Distance: 2
Possible move: 1Na3 - Actual move: 2Na3 - Distance: 1
Possible move: 2a3 - Actual move: 2Na3 - Distance: 1
Possible move: 2Ba3 - Actual move: 2Na3 - Distance: 1
Possible move: 2Ka3 - Actual move: 2Na3 - Distance: 1
Possible move: 2Na1 - Actual move: 2Na3 - Distance: 1
Possible move: 2Na2 - Actual move: 2Na3 - Distance: 1
Possible move: 2Na3 - Actual move: 2Na3 - Distance: 0
Possible move: 1a1 - Actual move: 1Bb2 - Distance: 3
Possible move: 1a2 - Actual move: 1Bb2 - Distance: 2
Possible move: 1axb2 - Actual move: 1Bb2 - Distance: 2
Possible move: 1b1 - Actual move: 1Bb2 - Distance: 2
Possible move: 1b2 - Actual move: 1Bb2 - Distance: 1
Possible move: 1Ba2 - Actual move: 1Bb2 - Distance: 1
Possible move: 1Bb1 - Actual move: 1Bb2 - Distance: 1
Possible move: 1Bb2 - Actual move: 1Bb2 - Distance: 0
Possible move: 1a1 - Actual move: 2Nxb1 - Distance: 4
Possible move: 1axb1 - Actual move: 2Nxb1 - Distance: 2
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Possible move: 1Bxb1 - Actual move: 2Nxb1 - Distance: 2
Possible move: 1cxb1 - Actual move: 2Nxb1 - Distance: 2
Possible move: 1Kxb1 - Actual move: 2Nxb1 - Distance: 2
Possible move: 1Nb1 - Actual move: 2Nxb1 - Distance: 2
Possible move: 1Nxa1 - Actual move: 2Nxb1 - Distance: 2
Possible move: 1Nxb1 - Actual move: 2Nxb1 - Distance: 1
Possible move: 2axb1 - Actual move: 2Nxb1 - Distance: 1
Possible move: 2Bxb1 - Actual move: 2Nxb1 - Distance: 1
Possible move: 2Kxb1 - Actual move: 2Nxb1 - Distance: 1
Possible move: 2Nb1 - Actual move: 2Nxb1 - Distance: 1
Possible move: 2Nxa1 - Actual move: 2Nxb1 - Distance: 1
Possible move: 2Nxb1 - Actual move: 2Nxb1 - Distance: 0
Possible move: 1a1 - Actual move: 1Bxb1 - Distance: 3
Possible move: 1axb1 - Actual move: 1Bxb1 - Distance: 1
Possible move: 1Bb1 - Actual move: 1Bxb1 - Distance: 1
Possible move: 1Bxa1 - Actual move: 1Bxb1 - Distance: 1
Possible move: 1Bxb1 - Actual move: 1Bxb1 - Distance: 0
Possible move: 1a1 - Actual move: 2Ne4 - Distance: 4
Possible move: 1a2 - Actual move: 2Ne4 - Distance: 4
Possible move: 1a3 - Actual move: 2Ne4 - Distance: 4
Possible move: 1a4 - Actual move: 2Ne4 - Distance: 3
Possible move: 1b4 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Ba4 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Bb4 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Bc4 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Bd4 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Be1 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Be2 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Be3 - Actual move: 2Ne4 - Distance: 3
Possible move: 1Be4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1e4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Ke4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Na4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Nb4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Nc4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Nd4 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Ne1 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Ne2 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Ne3 - Actual move: 2Ne4 - Distance: 2
Possible move: 1Ne4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Be4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2e4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Ke4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Na4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Nb4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Nc4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Nd4 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Ne1 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Ne2 - Actual move: 2Ne4 - Distance: 1
Possible move: 2Ne3 - Actual move: 2Ne4 - Distance: 1
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Possible move: 2Ne4 - Actual move: 2Ne4 - Distance: 0
Possible move: 1a1 - Actual move: 10e2 - Distance: 3
Possible move: 1a2 - Actual move: 10e2 - Distance: 2
Possible move: 1b2 - Actual move: 10e2 - Distance: 2
Possible move: 1Ba2 - Actual move: 1Qe2 - Distance: 2
Possible move: 1Bb2 - Actual move: 10e2 - Distance: 2
Possible move: 1Bc2 - Actual move: 1Qe2 - Distance: 2
Possible move: 1Bd2 - Actual move: 10e2 - Distance: 2
Possible move: 1Be1 - Actual move: 10e2 - Distance: 2
Possible move: 1Be2 - Actual move: 10e2 - Distance: 1
Possible move: 1e2 - Actual move: 1Qe2 - Distance: 1
Possible move: 1Ke2 - Actual move: 10e2 - Distance: 1
Possible move: 1Ne2 - Actual move: 1Qe2 - Distance: 1
Possible move: 10a2 - Actual move: 10e2 - Distance: 1
Possible move: 10b2 - Actual move: 10e2 - Distance: 1
Possible move: 10c2 - Actual move: 10e2 - Distance: 1
Possible move: 10d2 - Actual move: 10e2 - Distance: 1
Possible move: 1Qe1 - Actual move: 1Qe2 - Distance: 1
Possible move: 10e2 - Actual move: 10e2 - Distance: 0
Possible move: 1a1 - Actual move: 2f6 - Distance: 3
Possible move: 1a2 - Actual move: 2f6 - Distance: 3
Possible move: 1a3 - Actual move: 2f6 - Distance: 3
Possible move: 1a4 - Actual move: 2f6 - Distance: 3
Possible move: 1a5 - Actual move: 2f6 - Distance: 3
Possible move: 1a6 - Actual move: 2f6 - Distance: 2
Possible move: 1b6 - Actual move: 2f6 - Distance: 2
Possible move: 1Bf6 - Actual move: 2f6 - Distance: 2
Possible move: 1c6 - Actual move: 2f6 - Distance: 2
Possible move: 1d6 - Actual move: 2f6 - Distance: 2
Possible move: 1e6 - Actual move: 2f6 - Distance: 2
Possible move: 1f1 - Actual move: 2f6 - Distance: 2
Possible move: 1f2 - Actual move: 2f6 - Distance: 2
Possible move: 1f3 - Actual move: 2f6 - Distance: 2
Possible move: 1f4 - Actual move: 2f6 - Distance: 2
Possible move: 1f5 - Actual move: 2f6 - Distance: 2
Possible move: 1f6 - Actual move: 2f6 - Distance: 1
Possible move: 2a6 - Actual move: 2f6 - Distance: 1
Possible move: 2b6 - Actual move: 2f6 - Distance: 1
Possible move: 2Bf6 - Actual move: 2f6 - Distance: 1
Possible move: 2c6 - Actual move: 2f6 - Distance: 1
Possible move: 2d6 - Actual move: 2f6 - Distance: 1
Possible move: 2e6 - Actual move: 2f6 - Distance: 1
Possible move: 2f1 - Actual move: 2f6 - Distance: 1
Possible move: 2f2 - Actual move: 2f6 - Distance: 1
Possible move: 2f3 - Actual move: 2f6 - Distance: 1
Possible move: 2f4 - Actual move: 2f6 - Distance: 1
Possible move: 2f5 - Actual move: 2f6 - Distance: 1
Possible move: 2f6 - Actual move: 2f6 - Distance: 0
Possible move: 1a1 - Actual move: 1Nd3 - Distance: 3
Possible move: 1a2 - Actual move: 1Nd3 - Distance: 3
```

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```
Possible move: 1a3 - Actual move: 1Nd3 - Distance: 2
Possible move: 1b3 - Actual move: 1Nd3 - Distance: 2
Possible move: 1Ba3 - Actual move: 1Nd3 - Distance: 2
Possible move: 1Bb3 - Actual move: 1Nd3 - Distance: 2
Possible move: 1Bc3 - Actual move: 1Nd3 - Distance: 2
Possible move: 1Bd1 - Actual move: 1Nd3 - Distance: 2
Possible move: 1Bd2 - Actual move: 1Nd3 - Distance: 2
Possible move: 1Bd3 - Actual move: 1Nd3 - Distance: 1
Possible move: 1d3 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Kd3 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Na3 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Nb3 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Nc3 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Nd1 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Nd2 - Actual move: 1Nd3 - Distance: 1
Possible move: 1Nd3 - Actual move: 1Nd3 - Distance: 0
Possible move: 1a1 - Actual move: 2Bb4 - Distance: 4
Possible move: 1a2 - Actual move: 2Bb4 - Distance: 4
Possible move: 1a3 - Actual move: 2Bb4 - Distance: 4
Possible move: 1a4 - Actual move: 2Bb4 - Distance: 3
Possible move: 1axb4 - Actual move: 2Bb4 - Distance: 3
Possible move: 1b1 - Actual move: 2Bb4 - Distance: 3
Possible move: 1b2 - Actual move: 2Bb4 - Distance: 3
Possible move: 1b3 - Actual move: 2Bb4 - Distance: 3
Possible move: 1b4 - Actual move: 2Bb4 - Distance: 2
Possible move: 1Ba4 - Actual move: 2Bb4 - Distance: 2
Possible move: 1Bb1 - Actual move: 2Bb4 - Distance: 2
Possible move: 1Bb2 - Actual move: 2Bb4 - Distance: 2
Possible move: 1Bb3 - Actual move: 2Bb4 - Distance: 2
Possible move: 1Bb4 - Actual move: 2Bb4 - Distance: 1
Possible move: 2b4 - Actual move: 2Bb4 - Distance: 1
Possible move: 2Ba4 - Actual move: 2Bb4 - Distance: 1
Possible move: 2Bb1 - Actual move: 2Bb4 - Distance: 1
Possible move: 2Bb2 - Actual move: 2Bb4 - Distance: 1
Possible move: 2Bb3 - Actual move: 2Bb4 - Distance: 1
Possible move: 2Bb4 - Actual move: 2Bb4 - Distance: 0
Possible move: 1a1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1a2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1axb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1axb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1b1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1b2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ba1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ba2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bd2 - Actual move: 21/2-1/2 - Distance: 6
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```
Possible move: 1Be1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Be2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bq2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1bxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1bxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1bxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1bxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Bxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1c1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1c2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1cxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1cxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1cxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1cxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1d1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1d2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1dxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1dxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1dxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1dxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1e1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1e2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1exd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1exd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1exf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1exf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1f1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1f2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1fxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1fxe2 - Actual move: 21/2-1/2 - Distance: 6
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```
Possible move: 1fxq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1fxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1g1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1g2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1gxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1gxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1gxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1gxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1h1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1h2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1hxg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1hxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ka1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ka2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ke1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ke2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Kxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Na1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Na2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nc2 - Actual move: 21/2-1/2 - Distance: 6
```

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```
Possible move: 1Nd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ne1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ne2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ng1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ng2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Nxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10a1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10a2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10b1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Qb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Qc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Qc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10d1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10d2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Qe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Qe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10f1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10f2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10g1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10g2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10h1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10h2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xd2 - Actual move: 21/2-1/2 - Distance: 6
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Possible move: 10xe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xq2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 10xh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ra1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Ra2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Re1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Re2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rq2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxq2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 1Rxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2a1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2a2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2axb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2axb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2b1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2b2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ba1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ba2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bb2 - Actual move: 21/2-1/2 - Distance: 6
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Possible move: 2Bc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Be1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Be2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2bxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2bxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2bxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2bxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Bxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2c1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2c2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2cxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2cxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2d1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2d2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2dxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2dxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2e1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2e2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2exf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2exf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2f1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2f2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2fxg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2fxq2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2g1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2g2 - Actual move: 21/2-1/2 - Distance: 6
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```
Possible move: 2gxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2gxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2h1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2h2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ka1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ka2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ke1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ke2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxq2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Kxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Na1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Na2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ne1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ne2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ng1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ng2 - Actual move: 21/2-1/2 - Distance: 6
```

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```
Possible move: 2Nh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Nxh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20a1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20a2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20b1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20b2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20c1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20c2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20d1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Qd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20e1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20e2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20f1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20f2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20g1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20g2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20h1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20h2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 20xh2 - Actual move: 21/2-1/2 - Distance: 6
```

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Possible move: 2Ra1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Ra2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Re1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Re2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rq1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rh2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxa1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxa2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxb1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxb2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxc1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxc2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxd1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxd2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxe1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxe2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxf1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxf2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxg1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxg2 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxh1 - Actual move: 21/2-1/2 - Distance: 6
Possible move: 2Rxh2 - Actual move: 21/2-1/2 - Distance: 6
```

This test reveals that we need to further split on the dot of the move number and add the three possible results to our list of possible chess moves.

We now need to build the representation of our Basket:

```
In [96]:
    class Basket:
        possible_chess_moves = "1a1 1a2 1a3 1a4 1a5 1a6 1a7 1a8 1axb1 1axb2 1axb
        possible_chess_moves_without_player = "Ba1 Ba2 Ba3 Ba4 Ba5 Ba6 Ba7 Ba8 E
        possible_chess_moves_wo_captures = "Ba1 Ba2 Ba3 Ba4 Ba5 Ba6 Ba7 Ba8 Bb1
        hm={}
        pcm = []
        def __init__(self):
            self.pcm = self.possible_chess_moves.split()
            print(f"Length of Products:{len(self.pcm)}")
        for pm in self.pcm:
            self.hm.update({pm:[False]})
```

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```
def metric_lookup(self, query):
    min_metric = 10
    for m in self.pcm:
        metric = edit_distance(query,m)
        if metric <= min metric: # < for the first tie; <= for the last</pre>
            min metric = metric
            s2m = m
    return s2m, min_metric
def update_basket(self, item, move_number=0):
   tempList=self.hm.get(item)
    # detect the result of the move
    temp list res01 = self.hm.get(self.pcm[len(self.pcm)-1])
    temp_list_res12 = self.hm.get(self.pcm[len(self.pcm)-2])
    temp list res10 = self.hm.get(self.pcm[len(self.pcm)-3])
    if item == self.pcm[len(self.pcm)-1] or item == self.pcm[len(self.pc
        tmnr = move_number
        # apply the results across all prior transactions
        while not temp_list_res01[tmnr] and not temp_list_res12[tmnr] ar
            tempList[tmnr] = True
            if tmnr > 0:
                tmnr = 1
    # make room for a new transaction across all products
    while move_number >= len(tempList):
        for pm in self.pcm:
            tl=self.hm.get(pm)
            tl.append(False)
            self.hm.update({pm:tl})
        tempList=self.hm.get(item)
    if not tempList[ move number ] :
        tempList[ move_number ]=True #1+tempList[ move_number ]
        self.hm.update({item:tempList})
def __str__(self):
    ret = ""
    for k in self.hm.keys():
        d="""
        for elm in self.hm.get(k):
            if elm:
                d+=" "+str(elm)+" "
            else:
                d+=" "+str(elm)
        if 0 < self.hm.get(k).count(True):</pre>
            ret+=str(f"{k}[{self.hm.get(k).count(True)}:{len(self.hm.get
    return ret
def annalyze apriori(self):
    df = pd.DataFrame(self.hm)
    # Generate frequent itemsets
```

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```
frequent_itemsets = apriori(df, min_support=0.91, use_colnames=True)
# Generate association rules
#rules = association_rules(frequent_itemsets, support_only=True, min_
rules = association_rules(frequent_itemsets, metric='support', min_t
print(rules)
```

We now build out various levels of abstractions via transaction deliminators representative of and according to our notions of chess strategy:

```
In [90]: test1="1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3
         test2="1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3
         test3="1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3
         tests=test1+" "+test2+" "+test3
         print (tests)
         tcs =tests.split()
         class PGN Parser:
           mba = Basket()
           # control over the relative degree of sparsity in each basket
           move_number=0 # appends to list on each pair of moves
           pawn_move_number=0 # appends to list on each pawn move: a bit more dense t
           king move number=0 # appends to list on each king move more sparse at the
           queen move number=0 # appends to list on each queen move more sparse in the
           castle move number=0 # appends to list splits the opening from the rest of
           def __init__(self, the_chess_string):
               self.tcs = the_chess_string
           def parse_metrics(self):
             for t in self.tcs:
               T=t.split('.')
               s=T[0]
               if len(T) > 1:
                 self.move_number+=1 # appends to list
                 if s == "1":
                   self.king_move_number+=1 # appends to list
                   self.queen_move_number+=1 # appends to list
                   self.castle move number+=1
                   if T[1][2:3].islower():
                     self.pawn_move_number+=1
                   s=T[1]
               if s.startswith('0'):
                 self.gueen move number +=1
               elif s.startswith('K'):
                 self.king_move_number +=1
               elif s.startswith('0'):
                 self.castle_move_number +=1
                 self.king move number +=1
               if s== "0-0":
                 s="Rf8"
```

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```
if len(t) >3:
          s="Rf1"
        s2m, min_metric = self.mba.metric_lookup(s)
        self.mba.update_basket(s2m, self.pawn_move_number)
        s="Kq8"
        if len(t) >3:
          s="Kq1"
      if s== "0-0-0":
        s="Rd8"
        if len(t) >5:
          s="Rd1"
        s2m, min_metric = self.mba.metric_lookup(s)
        self.mba.update basket(s2m, self.pawn move number)
        s="Kc8"
        if len(t) >5:
          s="Kc1"
      s2m, min_metric = self.mba.metric_lookup(s)
      if s2m[1:3].islower():
        self.pawn_move_number+=1
      self.mba.update_basket(s2m, self.pawn_move_number)
p = PGN Parser(tcs)
p.parse_metrics()
print(p.mba)
```

1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3 Bd6 9. Ne5 Nbd7 10.f4 Bb7 11.0-0 0-0 12.Rc1 Nb6 13.Qf3 Rc8 14.Nb1 Qe7 15.b3 Nc4 16. Bc3 Na3 17.Bb2 Nxb1 18.Bxb1 Ne4 19.Qe2 f6 20.Nd3 Bb4 1-0 1.d4 d5 2.c4 c6 3.N c3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3 Bd6 9.Ne5 Nbd7 10.f4 Bb7 11.0-0 0-0 12.Rc1 Nb6 13.Qf3 Rc8 14.Nb1 Qe7 15.b3 Nc4 16.Bc3 Na3 17.Bb2 Nxb1 18.Bxb1 Ne4 19.Qe2 f6 20.Nd3 Bb4 1/2-1/2 1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 a6 5.Bd3 b5 6.cxd5 cxd5 7.Bd2 e6 8.Nf3 Bd6 9.Ne5 Nbd7 10.f4 Bb7 11.0-0 0-0 12.R c1 Nb6 13.Qf3 Rc8 14.Nb1 Qe7 15.b3 Nc4 16.Bc3 Na3 17.Bb2 Nxb1 18.Bxb1 Ne4 1 9.Qe2 f6 20.Nd3 Bb4 0-1

Length of Products: 1587

1h1[3:67]: False F

1h3[3:67]: False F

1h4[3:67]: False F

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lse False Fa

1h5[3:67]: False F

1h6[3:67]: False F

1h7[3:67]: False F

1h8[3:67]: False F

2a6[3:67]: False False False False False False True False Fa

2b5[3:67]: False F

2Bb4[3:67]: False False

2Bb7[3:67]: False False

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lse False False False False

2c6[3:67]: False False False True False Fa

2cxd5[3:67]: False False

2d4[3:67]: False True False Fa

2d5[3:67]: False False True False Fa

2d6[3:67]: False F

2e6[3:67]: False F

2f6[3:67]: False F

2h3[3:67]: False False False False True False Fa

2h4[3:67]: False False False False False True False False False False

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False False

2h5[3:67]: False F

2h6[3:67]: False F

2h7[3:67]: False F

2h8[3:67]: False F

2Kg8[3:67]: False False

2Na3[3:67]: False False

2Nb6[3:67]: False False

2Nc4[3:67]: False False

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False False

2Ne4[3:67]: False False

2Nf6[3:67]: False False

2Nxb1[3:67]: False False

2Qe7[3:67]: False False

2Rc8[3:67]: False False

2Rd7[3:67]: False False

2Rf8[3:67]: False False

1-0[6:67]: False F

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e False False False True

In [94]:

p.mba.annalyze_apriori()

The output of association rules using the apriori algorithm will be print ϵ

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0 (1h1) 1 (2Kg8) 2 (1h1) 3 (2Nb6) 4 (1h1)	(2N (1 (2R	n1) 0.044776 n6) 0.044776 n1) 0.044776 f8) 0.044776	
550 (0-1) (551 (2d6) (552 (2Rd7)	(0-1, 2Rd7, 2d6, 1 (2Bb7, 2Rd7, 2d6, 1 (2Bb7, 0-1, 2Rd7, 1 (2Bb7, 0-1, 2d6, 1 (2Bb7, 0-1, 2Rd7, 2	-0) 0.552239 -0) 0.044776 -0) 0.044776	
consequent su	upport support c	onfidence lift re	epresentativity
1 0.6 2 0.6 3 0.6	044776 0.044776 044776 0.044776 044776 0.044776 044776 0.044776 044776 0.044776	1.000000 22.333333 1.000000 22.333333 1.000000 22.333333 1.000000 22.333333 1.000000 22.333333	1.0 1.0 1.0 1.0
550 0.6 551 0.6 552 0.6	044776 0.044776 044776 0.044776 044776 0.044776 044776 0.044776 044776 0.044776	1.000000 22.333333 0.081081 1.810811 1.000000 22.333333 1.000000 22.333333 0.500000 11.166667	1.0 1.0 1.0 1.0
0 0.042771 1 0.042771 2 0.042771 3 0.042771 4 0.042771 549 0.042771 550 0.020049 551 0.042771 552 0.042771	nviction zhangs_me inf inf inf inf inf inf inf inf inf 1.039508 inf inf 1.910448	1.0 1.000000 1.00000 1.0 1.000000 1.0000 1.0 1.000000 1.0000 1.0 1.000000 1.0000 1.0 1.000000 1.0000	1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000

[554 rows x 14 columns]

These rules show the time/space-complexity for a very small set of games. We can see that the more densely packed our transactions are the more time and space will be required to compute the associations. We can now move on to applying the pgn transformation over our complete collection of games with greater control over the relative sparseness for the computation of association rules. We have included transaction delimeters that map nicely to our understanding of movement / progress in chess game development from the opening, through the middle and

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into the end game. These divisions help to reduce the complexity in the rule building process.

Before we begin running through our collection of games we need to preprocess the files so that the files match our working assumptions of the games:

```
grep -v ^$ twic1450.pgn | grep -v ^"[" | perl -p -e 's/\r\n/ /' | sed 's/ 1. /\n1. /g' > twic1450.preprocessed.pgn
```

We can get a lot more elaborate, but this will remove all of the comments and whitespace.

```
In []: tcs = ""
    pgn_file = "twic1450.preprocessed.pgn"
    with open(pgn_file, 'r', encoding='latin-1') as file:
        for line in file:
            tcs = tcs + " " + line

    pgn_parser = PGN_Parser(tcs)
    pgn_parser.parse_metrics()
    p.mba.annalyze_apriori()
```

In []:

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