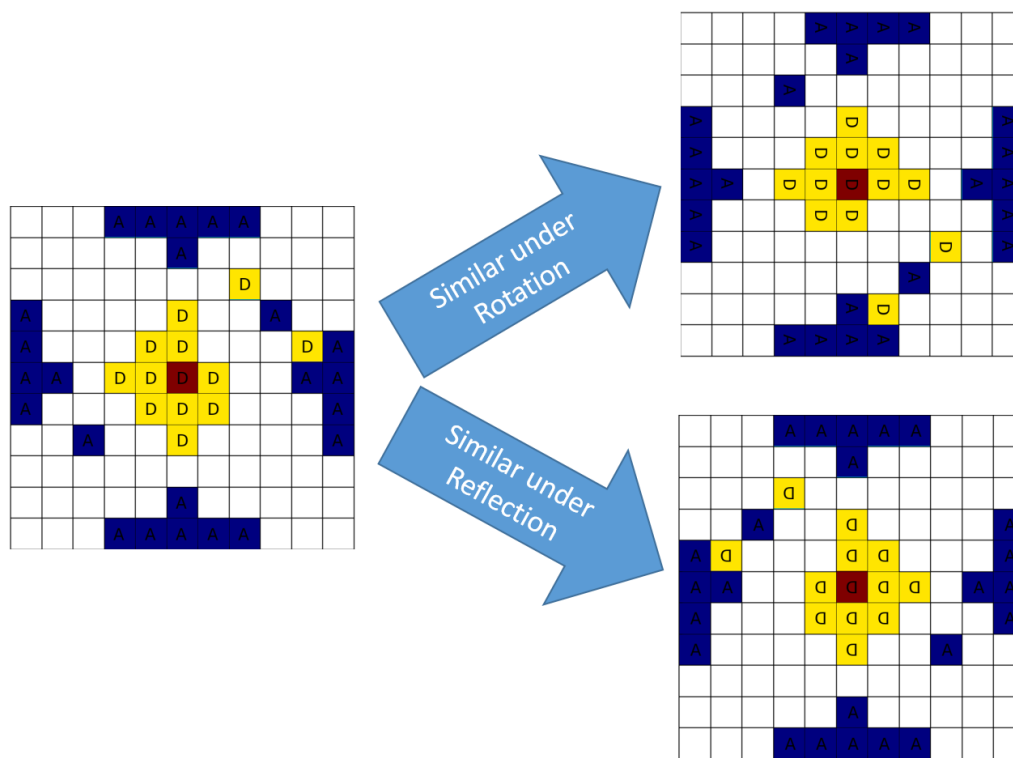


The first four moves of >1300 games of Copenhagen Hnefatafl between "strong players" were analyzed to identify regularities among openings. I did this by computing a measure of "similarity" between board positions at the fourth (and final) move in these openings. Board opening "similarity" was identified by checking if two equivalent positions two boards were the same (assigned a 0 to that position) or different (assigned a 1). However, because the Hnefatafl board is symmetric under both rotation and reflection, we treat as "equivalent" openings that begin at distinct positions but can be rotated or reflected (or some combination thereof) into a position identical to a board used as a reference (see below). We selected the number of clusters to optimize heterogeneity of wins, i.e., we tried to make sure that the generated clusters showed wins by attackers as well as defenders in not completely lopsided proportions.



A few other notes: We selected only those clusters (or classes) of openings with 5 or more members. Additionally, each class of opening includes a "heat map" showing the average significant positions of the attackers (marked A) and defenders (D) at the end (move 4) of that class of opening. Only *significant* positions are shown. The more intense a color, the more frequently a piece is found at that position. If there is considerable variability in the position of one of the pieces in a class/cluster it will not show in the average heat map for position 4 of the opening. Additionally pieces that have been captured will not show up in the average heat map. Also, the heatmaps shown may be rotated at an arbitrary angle relative to listed board positions. (or reflected). The King is always colored red.

Finally, only up to the first 20 openings in a cluster are shown. If there are more openings contained in that cluster the list of openings is ended with vertical ellipses dots.

			A	A	A	A	A		
					A				
A					D				A
A				D	D	D			A
A	A		D	D	D		D		A
A				D	D				A
A					D				A
					A	D	A		
			A	A	A	A			

.
.

Cluster Number 6 White Win %: 67.0 Black Win % 33.0 Draw % 0.0 Number
of games: 15 Mean Discrepancy: 0.55

			A	A	A	A	A			
					A					
A					D					
A				D	D	D				A
A	A		D	D	D		D		A	A
A				D	D					A
					D					A
					A	D	A			
			A	A	A	A				

h1-h3/g7-j7/k8-j8-j7/f7-j7/ White won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ White won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ Black won.
h1-h3/e5-b5/a4-b4-b5/f5-b5/ White won.
h1-h3/e5-b5/a4-b4-b5/f5-b5/ Black won.
h1-h3/e5-b5/a4-b4-b5/f5-b5/ Black won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ White won.
k8-i8/e7-b7/a8-b8-b7/f7-b7/ White won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ White won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ White won.
k8-i8/e7-e10/d11-d10-e10/e6-e10/ White won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ Black won.
h1-h3/g7-g10/h11-h10-g10/g6-g10/ White won.
k8-i8/g5-g2/h1-h2-g2/g6-g2/ Black won.
h1-h3/g7-j7/k8-j8-j7/f7-j7/ White won.

Cluster Number 8 White Win %: 50.0 Black Win % 50.0 Draw % 0.0 Number
of games: 34 Mean Discrepancy: 0.0

			A	A	A	A				
					A	D	A			
A					D					A
A				D	D					A
A	A		D	D	D		D		A	A
A				D	D	D				A
		A			D					A
					A					
			A	A	A	A	A			

h1-h3/e7-b7/a8-b8-b7/f7-b7/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
k8-i8/e5-e2/d1-d2-e2/e6-e2/	Black won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
d1-d3/g7-j7/k8-j8-j7/f7-j7/	Black won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
k8-i8/e5-e2/d1-d2-e2/e6-e2/	White won.
k4-i4/e7-e10/d11-d10-e10/e6-e10/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
k8-i8/e5-e2/d1-d2-e2/e6-e2/	Black won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
d1-d3/g7-j7/k8-j8-j7/f7-j7/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	Black won.
k8-i8/e5-e2/d1-d2-e2/e6-e2/	White won.
h1-h3/e7-b7/a8-b8-b7/f7-b7/	White won.

.
.

.

Cluster Number 9 White Win %: 58.0 Black Win % 42.0 Draw % 0.0 Number
of games: 19 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
A					D				A	
A				D					D	A
A	A		D	D	D	D	D		A	A
A				D	D	D				A
		A			D					A
					A					
			A	A	A	A	A			

h1-h3/e7-e10/d11-d10-e10/e6-e10/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ White won.
 k8-i8/e5-b5/a4-b4-b5/f5-b5/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 k4-i4/e7-b7/a8-b8-b7/f7-b7/ White won.
 k8-i8/e5-b5/a4-b4-b5/f5-b5/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 k8-i8/e5-b5/a4-b4-b5/f5-b5/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 d1-d3/g7-g10/h11-h10-g10/g6-g10/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ Black won.
 d1-d3/g7-g10/h11-h10-g10/g6-g10/ Black won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ White won.
 h1-h3/e7-e10/d11-d10-e10/e6-e10/ White won.
 d1-d3/g7-g10/h11-h10-g10/g6-g10/ White won.

#####

Cluster Number 10 White Win %: 62.0 Black Win % 38.0 Draw % 0.0 Number of games: 13 Mean Discrepancy: 0.78

			A	A	A	A				
					A					
A					D					A
A				D	D	D				A
A	A		D		D	D	D		A	A
A					D	D				A
A					D					A
			A	D	A					
				A	A	A	A			

f2-c2/g5-j5/k4-j4-j5/f5-j5/ White won.
 j6-j10/e7-e10/d11-d10-e10/e6-e10/ Black won.
 h1-h4/e7-e10/d11-d10-e10/e6-e10/ White won.
 h1-h4/g5-j5/k4-j4-j5/f5-j5/ White won.
 h1-h4/e7-e10/d11-d10-e10/e6-e10/ Black won.
 e1-e2/e7-b7/a8-b8-b7/f7-b7/ White won.
 e1-e2/e7-b7/a8-b8-b7/f7-b7/ White won.
 e1-e2/g7-g10/h11-h10-g10/g6-g10/ Black won.
 f2-i2/e7-e10/d11-d10-e10/e6-e10/ Black won.
 h1-h4/e7-e10/d11-d10-e10/e6-e10/ White won.
 h1-h4/e7-e10/d11-d10-e10/e6-e10/ Black won.
 h1-h4/e7-e10/d11-d10-e10/e6-e10/ White won.
 b6-b3/g7-g10/h11-h10-g10/g6-g10/ White won.

 Cluster Number 13 White Win %: 83.0 Black Win % 17.0 Draw % 0.0 Number
 of games: 6 Mean Discrepancy: 0.67

			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A		D		D	D	D		A	A
		D			D	D				A
			A		D					A
				D						
					A					
				A	A	A	A			

h1-h4/g5-g3/g1-g2/f5-i5/ White won.
 h1-h4/g5-g3/a4-a3/f5-i5/ White won.

h1-h4/g5-i5/g1-i1/g6-g4/ Black won.
h1-h4/g5-g3/k4-k3/f5-i5/ White won.
h1-h4/g5-g3/k4-k3/f5-i5/ White won.
h1-h4/g5-g3/k4-k3/f5-h5/ White won.

#####

Cluster Number 17 White Win %: 75.0 Black Win % 25.0 Draw % 0.0 Number
of games: 32 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A		D	D	D	D			A	A
A				D	D					A
A					D					A
						A	D			
					A					
			A	A	A	A				

k8-i8/g7-j7/i8-i7-j7/f8-i8/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
k8-i8/g7-j7/i8-i7-j7/f8-i8/ White won.
k4-i4/g5-j5/i4-i5-j5/f4-i4/ White won.
k8-i8/g7-j7/i8-i7-j7/f8-i8/ White won.
k8-i8/g7-j7/i8-i7-j7/f8-i8/ Black won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h11-h9/g7-g10/h9-g9-g10/h6-h9/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
k8-i8/g7-j7/i8-i7-j7/f8-i8/ Black won.
k8-i8/g7-j7/i8-i7-j7/f8-i8/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
k8-i8/g7-j7/i8-i7-j7/f8-i8/ Black won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ White won.
h1-h3/g5-g2/h3-g3-g2/h6-h3/ Black won.

.
.
.

#####

Cluster Number 18 White Win %: 50.0 Black Win % 50.0 Draw % 0.0 Number
of games: 6 Mean Discrepancy: 0.5

			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A		D	D	D	D	D		A	A
A	D				D	D				A
										A
					A					
			A	A	A	A	A			

h1-h3/h6-h10/h3-h9-h10/g5-g2/ White won.

k4-i4/f4-b4/i4-c4-b4/g5-j5/ White won.

k8-i8/f8-b8/i8-c8-b8/g7-j7/ Black won.

d1-d3/e5-e2/d3-e3-e2/d6-d2/ Black won.

h1-h3/g5-g2/h3-g3-g2/h6-h2/ Black won.

a8-c8/e7-b7/c8-c7-b7/f8-a8/ White won.

#####

Cluster Number 23 White Win %: 70.0 Black Win % 30.0 Draw % 0.0 Number of games: 10 Mean Discrepancy: 0.9

			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A		D		D	D	D		A	A
A					D	D				A
					D					A
				D	A					
				A	A		A			

h1-h4/g5-g3/k4-k3/f5-j5/ White won.

h1-h4/g5-g2/e1-e2/g6-g3/ White won.

h1-h4/g5-g2/e1-e2/g6-g3/ White won.

h1-h4/g5-g2/e1-e2/g6-g3/ Black won.

h1-h4/g5-g2/e1-e3/g6-g3/ White won.

g11-g10/e5-e2/d1-d2-e2/f5-c5/ Black won.

h1-i1/g5-g2/e1-e3/g6-g3/ White won.

h1-h4/g5-g2/e1-e2/f5-j5/ White won.

h1-i1/g5-g2/e1-e3/g6-g3/ White won.

h1-i1/g5-g2/e1-e3/g6-g3/ Black won.

#####

Cluster Number 24 White Win %: 100.0 Black Win % 0.0 Draw % 0.0 Number
of games: 7 Mean Discrepancy: 0.94

			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A		D	D	D	D				A
A					D					A
A					D					A
					A	D				
			A	A	A	A		A		

k8-k9/f8-k8/d11-c11/g7-j7/ White won.

h1-i1/h6-h1/j6-j2/g5-g2/ White won.

k4-k3/g5-j5/f2-j2/g7-j7-j6/ White won.

h1-i1/g5-g2/e1-e2/h6-h1/ White won.

h1-i1/g5-g2/j6-j2/e5-e2-f2/ White won.

h1-i1/h6-h1/j6-j2/g5-g2/ White won.

d1-c1/e5-e2/f2-i2/d6-d1/ White won.

#####

Cluster Number 33 White Win %: 67.0 Black Win % 22.0 Draw % 11.0 Number
of games: 9 Mean Discrepancy: 0.0

			A	A	A	A	A			
					D			A		
A										A
A				D		D				A
A	A		D	D	D	D	D		A	A
A				D	D	D				A
		A			D					A
					A					
			A	A	A	A	A			

h1-h3/d6-d3/b6-b9/e6-b6/ Black won.

h1-h3/d6-d9/b6-b9/e6-b6/ Black won.

h1-h3/d6-d9/b6-b9/e6-b6/ White won.

h1-h3/d6-d9/b6-b9/e6-b6/ White won.

h1-h3/d6-d9/b6-b9/e6-b6/ White won.
 a8-c8/f4-i4/f2-i2/f5-f2/ White won.
 h1-h3/d6-d9/b6-b9/e6-b6/ White won.
 f2-i2/f4-c4/a8-c8/f5-f2/ White won.
 a4-c4/f8-i8/f10-i10/f7-f10/ Draw.
 #####
 Cluster Number 35 White Win %: 73.0 Black Win % 27.0 Draw % 0.0 Number
 of games: 15 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
							D			
A					D			A		
A				D	D				D	A
A	A		D	D	D	D			A	A
A				D	D	D				A
		A			D					A
					A					
			A	A	A	A	A			

h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 h1-h3/f4-i4/d11-d9/g5-g2/ Black won.
 k8-i8/d6-d3/a4-c4/e5-b5/ Black won.
 h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 h1-h3/f8-c8/d11-d9/e7-e10/ Black won.
 h11-h9/f4-c4/d1-d3/e5-e2/ White won.
 h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 k8-i8/d6-d3/a4-c4/e5-b5/ White won.
 h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 d1-d3/f8-i8/h11-h9/g7-g10/ Black won.
 h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 h1-h3/f8-c8/d11-d9/e7-e10/ White won.
 d11-d9/f4-i4/h1-h3/g5-g2/ White won.
 a4-c4/h6-h9/k8-i8/g7-j7/ White won.
 #####
 Cluster Number 52 White Win %: 62.0 Black Win % 38.0 Draw % 0.0 Number
 of games: 8 Mean Discrepancy: 0.47

				A	A	A	A			
					A					
			A							
A					D					A
A					D	D	D			A
A	A			D	D	D		D		A
A					D					A
A						D				A
			A				D			
				A	A	A	A	A		

a4-c4/g7-j7/j6-j3/g6-g10/ White won.
k8-i8/e5-b5/b6-b9/f5-c5/ White won.
k8-i8/e5-b5/b6-b9/e6-e3/ White won.
h11-h9/e5-e2/f2-i2/e6-e3/ Black won.
h1-h3/e7-e10/f10-i10/e6-e9/ White won.
h11-h9/e5-e2/f2-i2/e6-e3/ Black won.
d1-d3/g7-g10/f10-c10/f7-i7/ Black won.
h1-h3/e7-e10/f10-i10/e6-e9/ White won.

Cluster Number 53 White Win %: 23.0 Black Win % 77.0 Draw % 0.0 Number
of games: 13 Mean Discrepancy: 0.95

				A	A	A	A	A		
					A					
		A				D				A
A					D	D	D			A
A	A			D	D	D		D		A
A					D					A
A						D				A
					A					
			A		A	A	A			

d1-d3/g7-j7/k5-i5/f7-i7/ Black won.
h1-h3/e7-e10/g11-g9/f7-c7/ White won.
k4-i4/e7-e10/g11-g9/f7-c7/ Black won.
k8-i8/e5-b5/a7-c7/f5-c5/ Black won.
d11-d9/g5-j5/k7-i7/g6-g2/ Black won.
k4-i4/e7-e10/g11-g9/e6-e9/ Black won.
h1-h3/e7-b7/b6-b2/f7-c7/ White won.

k8-i8/e5-b5/a7-c7/e6-e3/ Black won.
 k4-i4/e7-e10/g11-g9/e6-e9/ Black won.
 h1-h3/e7-e10/g11-g10/e6-e9/ White won.
 h1-h3/e7-e8/e11-e9/f7-c7/ Black won.
 h1-h3/e7-b7/a5-c5/f7-c7/ Black won.
 h1-h3/e7-b7/a5-b5/e6-e10/ Black won.

#####

Cluster Number 57 White Win %: 43.0 Black Win % 57.0 Draw % 0.0 Number
 of games: 7 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
		A			D			A		
A				D	D				D	A
A	A		D	D	D	D			A	A
A				D	D	D				A
A					D					A
							D			
					A					
			A	A	A	A	A			

d1-d3/f8-i8/d11-d9/e7-e10/ Black won.
 h11-h9/f4-c4/h1-h3/g5-g2/ Black won.
 h11-h9/f4-c4/h1-h3/g5-g2/ Black won.
 h1-h3/f8-c8/h11-h9/g7-g10/ White won.
 h11-h9/f4-c4/h1-h3/g5-g2/ White won.
 k8-i8/d6-d3/a8-c8/e7-b7/ White won.
 d1-d3/f8-i8/d11-d9/e7-e10/ Black won.

#####

Cluster Number 61 White Win %: 33.0 Black Win % 50.0 Draw % 17.0 Number
 of games: 6 Mean Discrepancy: 1.17

				A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A		D	D	D	D	D		A	A
A					D					A
		A			D					A
					A					
				A	A	A	A			

h1-h3/g5-i5/k4-i4/g7-j7/ Draw.
h11-h9/g7-i7/k8-i8/e7-b7/ Black won.
d1-d3/g5-i5/k4-i4/e5-c5/ Black won.
h1-h3/g7-i7/k8-i8/g6-g9/ Black won.
h1-h3/g7-i7/k7-j7/g5-g3/ White won.
d1-d3/e7-e9/a8-c8/g7-i7/ White won.

Cluster Number 73 White Win %: 62.0 Black Win % 38.0 Draw % 0.0 Number
of games: 8 Mean Discrepancy: 0.78

				A	A	A	A	A		
						A				
			D							
A					D					A
A				D	D				D	A
A	A			D	D	D	D		A	A
				D	D	D				A
A					D					A
							A			
					A					
				A	A	A	A			

k8-i8/f4-c4/g1-g3/e7-e10/ Black won.
k8-i8/f4-c4/j6-j3/e7-e10/ White won.
h1-h3/d6-d9/d11-d10/g7-j7/ White won.
h1-h3/d6-d9/b6-b9/g7-j7/ White won.
h1-h3/d6-d9/f10-b10/g7-j7/ White won.
d1-d3/h6-h9/k5-i5/e7-b7/ White won.
h11-h9/d6-d3/a7-c7/g5-j5/ Black won.
h1-h3/d6-d9/a7-b7/g7-j7/ Black won.

#####

Cluster Number 82 White Win %: 45.0 Black Win % 45.0 Draw % 9.0 Number of games: 11 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
							D			
A					D			A		
A				D	D					A
A	A		D	D	D	D			A	A
A				D	D	D				A
A					D					A
			A							
					A					
				A	A	A	A			

d11-d9/f8-c8/k4-i4/e7-c7/ Draw.
h1-h3/f4-i4/a8-c8/g5-g3/ White won.
a4-c4/g7-g9/h11-h9/f8-i8/ Black won.
k4-i4/e7-d7/d11-d9/f8-c8/ Black won.
a8-c8/g5-g3/h1-h3/f4-i4/ White won.
k8-i8/e5-e3/d1-d3/f4-c4/ White won.
d1-d3/h6-h9/k8-i8/g7-i7/ White won.
h1-h3/d6-d9/a8-c8/e7-e10/ Black won.
d1-d3/g7-i7/k8-i8/h6-h9/ White won.
a8-c8/f4-i4/h1-h3/g5-j5/ Black won.
h1-h3/d6-d9/a8-c8/e7-e10/ Black won.

#####

Cluster Number 83 White Win %: 59.0 Black Win % 39.0 Draw % 2.0 Number of games: 64 Mean Discrepancy: 0.78

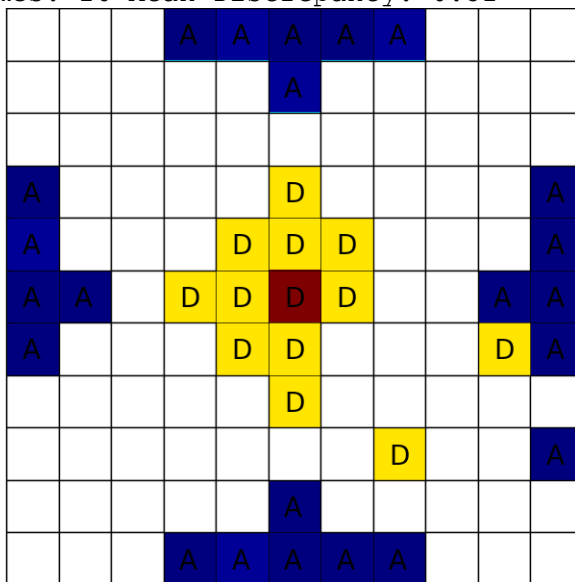
			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A			D	D	D	D		A	A
					D	D				A
		A			D					A
			D							
					A					
			A	A	A	A				

h1-h3/f4-i4/f2-i2/g5-g3/ White won.
h1-h3/f4-i4/k8-i8/g5-g3/ Black won.

g1-g2/g7-i7/k8-i8/h6-h9/	White won.
h1-h3/f4-i4/g1-g3/g5-g4/	White won.
a7-b7/g5-g3/h1-h3/f4-i4/	White won.
h1-h3/f4-i4/g1-i1/g5-g3/	Black won.
d11-d9/f8-c8/e11-c11/e7-e9/	Black won.
k4-i4/h6-h3/k5-k3/g5-i5/	Black won.
k8-i8/h6-h9/k7-k9/g7-i7/	Black won.
h1-h3/f4-i4/k8-i8/g5-g3/	Black won.
k8-i8/h6-h9/j6-j10/g7-g9/	White won.
k8-i8/h6-h9/h1-i1/g7-i7/	White won.
h1-h3/f8-i8/h11-h9/g7-j7/	Black won.
k8-i8/h6-h9/d11-d9/g7-i7/	White won.
k8-i8/h6-h9/f10-j10/g7-i7/	White won.
h1-h3/f8-i8/h11-h9/g7-g9/	White won.
h1-h3/f4-i4/k8-i8/g5-g3/	White won.
h1-h3/f4-i4/h11-i11/g5-g3/	White won.
h1-h3/f4-i4/k8-i8/g5-g3/	White won.
h1-h3/f4-i4/g1-i1/g5-g3/	White won.

.
.
.

Cluster Number 87 White Win %: 81.0 Black Win % 12.0 Draw % 6.0 Number
of games: 16 Mean Discrepancy: 0.51



a8-c8/f8-i8/h11-i11/g7-g10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
h1-h4/f8-i8/h11-i11/g7-g10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	Black won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
d1-d3/f8-c8/d11-c11/e7-e10/	White won.
h1-h3/f8-i8/h11-i11/g7-g10/	White won.
d1-d3/f8-c8/d11-c11/e7-e10/	White won.
d1-d3/f8-c8/d11-c11/e7-e10/	White won.

e1-e2/h6-h9/k8-k9/g7-j7/ Draw.
 e1-e2/f8-i8/h11-i11/g7-g10/ White won.
 e1-e2/h6-h3/k4-k3/g5-j5/ White won.
 b6-b3/f8-i8/h11-i11/g7-g10/ Black won.
 #####
 Cluster Number 90 White Win %: 62.0 Black Win % 38.0 Draw % 0.0 Number
 of games: 16 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
A					D					A
A				D	D	D				A
A	A			D	D	D	D		A	A
A	D				D	D				A
		A			D					A
			D				A			
					A					
			A	A	A	A				

h1-h3/f4-i4/k8-i8/g5-g2/ Black won.
 a4-c4/d6-d3/h1-h3/e5-b5/ White won.
 k8-i8/f4-i4/h1-h3/g5-g2/ White won.
 h1-h3/d6-d3/a4-c4/e5-b5/ Black won.
 h1-h3/d6-d3/a4-c4/e5-b5/ White won.
 a8-c8/d6-d9/h11-h9/e7-b7/ Black won.
 k8-i8/h6-h9/d11-d9/g7-j7/ Black won.
 d11-d9/f8-c8/a4-c4/e7-e10/ Black won.
 k8-i8/h6-h9/d11-d9/g7-j7/ White won.
 h1-h3/f4-i4/k8-i8/g5-g2/ White won.
 h1-h3/f4-i4/k8-i8/g5-g2/ Black won.
 h1-h3/f4-i4/k8-i8/g5-g2/ White won.
 d1-d3/f4-c4/a8-c8/e5-e2/ White won.
 h1-h3/d6-d3/a4-c4/e5-b5/ White won.
 h1-h3/f4-i4/k8-i8/g5-g2/ White won.
 a4-c4/d6-d3/h1-h3/e5-b5/ White won.
 #####
 Cluster Number 91 White Win %: 58.0 Black Win % 41.0 Draw % 1.0 Number
 of games: 90 Mean Discrepancy: 0.73

			A	A	A	A	A			
					A					
							D			
A					D			A		
A				D	D				D	A
A	A		D	D	D	D				A
A				D	D	D				A
A					D					A
					A					
			A	A	A	A	A			

d11-d9/f8-c8/k8-i8/e7-e10/ Black won.
k8-i8/g7-j7/j6-j3/h6-h9/ White won.
k8-i8/g7-j7/j6-j3/h6-h9/ White won.
k8-i8/g7-j7/k5-i5/h6-h9/ Black won.
d1-d3/f4-c4/e1-c1/e5-e2/ Black won.
h1-h3/f4-i4/a4-c4/g5-g2/ White won.
h1-h3/g5-g2/f2-c2/f4-i4/ Black won.
h1-h3/f8-i8/h11-h9/g7-g10/ White won.
h1-h3/f4-i4/g1-i1/g5-g2/ White won.
h1-h3/g5-g2/f2-c2/f4-i4/ Black won.
k8-i8/g7-j7/j6-j3/h6-h9/ White won.
h11-h9/f8-i8/g11-i11/g7-g10/ White won.
k8-i8/f8-c8/d11-d9/e7-e10/ Black won.
k8-i8/h6-h9/h1-h3/g7-j7/ Black won.
k8-i8/g7-j7/k5-j5/h6-h9/ White won.
h1-h3/g5-g2/f2-c2/f4-i4/ White won.
a8-c8/e7-b7/b6-b3/d6-d9/ White won.
h1-h3/g5-g2/f2-c2/f4-i4/ White won.
k8-i8/h6-h9/k7-k9/g7-j7/ White won.
g1-g2/f8-i8/h11-h9/g7-g10/ White won.

.
.

Cluster Number 95 White Win %: 55.0 Black Win % 45.0 Draw % 0.0 Number
of games: 132 Mean Discrepancy: 1.33

			A	A	A	A	A			
					A					
A					D					A
				D	D	D				A
A				D	D	D	D		A	A
A	D					D				A
		A			D					A
					A					
			A	A	A	A	A			

h1-h3/g5-g2/f2-c2/g6-g3/ Black won.
 h11-h9/g7-g10/f10-c10/g6-g9/ Black won.
 a4-c4/e5-b5/b6-b9/f5-c5/ White won.
 k4-i4/g5-j5/j6-j9/h6-h2/ Black won.
 d11-d9/e7-e10/f10-i10/e6-e9/ White won.
 d1-d3/e5-e2/f2-i2/f4-f3/ White won.
 h1-h3/g5-g2/e1-e3/d6-d3/ Black won.
 k4-i4/g5-j5/j6-j9/f4-b4/ Black won.
 h1-h3/g5-g2/e1-e2/h6-h10/ White won.
 h1-h3/g5-g2/f2-c2/f4-f2/ White won.
 h1-h3/g5-g2/f2-c2/g6-g3/ White won.
 d11-d9/e7-e10/f10-i10/f7-c7/ Black won.
 k4-i4/g5-j5/j6-j9/f4-b4/ Black won.
 h1-h3/g5-g2/e1-e3/d6-d3/ White won.
 k8-i8/g7-j7/k5-i5/f4-i4/ Black won.
 k8-i8/f8-b8/d11-d9/e7-e10/ Black won.
 h1-h3/g5-g2/f2-c2/g2-i2/ Black won.
 h11-h9/g7-g10/f10-c10/g10-j10/ Black won.
 k4-i4/g5-j5/j6-j9/g6-g3/ Black won.
 h1-h3/g5-g2/f2-c2/f5-i5/ White won.

.
.
.

#####

Cluster Number 100 White Win %: 42.0 Black Win % 50.0 Draw % 8.0 Number of games: 12 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
		A			D					A
A				D	D	D				A
A	A		D	D	D	D			A	A
A				D	D			D		A
A					D				A	
							D			
					A					
			A	A	A	A	A			

d1-d3/f8-i8/h11-h9/g7-g9/ Black won.
 h11-h9/f4-c4/d1-d3/e5-e3/ White won.
 k8-i8/d6-d3/a4-c4/e5-c5/ White won.
 k8-i8/e5-c5/a4-c4/d6-d3/ Black won.
 k8-i8/e5-c5/a4-c4/d6-d3/ Black won.
 a4-c4/g7-i7/k8-i8/h6-h9/ Black won.
 h1-h3/e7-e9/d11-d9/f8-c8/ White won.
 k8-i8/e5-c5/a4-c4/d6-d3/ Black won.
 h1-h3/f8-c8/d11-d9/e7-e9/ White won.
 a4-c4/h6-h9/k8-i8/g7-g10/ Draw.
 a4-c4/h6-h9/k8-i8/g7-i7/ White won.
 a4-c4/h6-h9/k8-i8/g7-i7/ Black won.

 Cluster Number 109 White Win %: 100.0 Black Win % 0.0 Draw % 0.0 Number
 of games: 9 Mean Discrepancy: 1.21

			A	A	A		A			
					A					
A					D					A
A				D	D	D				
A				D	D	D	D		A	A
				D	D	D				A
A		D								A
					A					
			A	A	A	A	A			

g1-g3/h6-h3/f2-f3/g6-i6/ White won.
 e1-e2/h6-h9/f10-i10/f8-f10/ White won.
 k5-j5/f8-c8/b6-b9/d6-b6/ White won.

g1-g2/f8-c8/b6-b9/d6-d3/ White won.
 g1-g2/f8-c8/b6-b9/d6-d9/ White won.
 g1-g3/h6-h3/f2-i2/f4-f3-g3/ White won.
 f2-i2/h6-h3/j6-j3/f4-f2/ White won.
 e1-e3/d6-d3/f2-f3/h6-h3/ White won.
 e1-e3/d6-d3/f2-f3/f8-c8/ White won.

 Cluster Number 110 White Win %: 67.0 Black Win % 33.0 Draw % 0.0 Number
 of games: 6 Mean Discrepancy: 0.94

			A	A	A	A	A			
					A					
							D			
A					D					A
A				D	D	D				A
A			D	D	D				D	A
A				D	D	D				A
A					D					A
					A					
			A	A	A	A	A			

e1-e2/f8-c8/f10-c10/f7-f9/ Black won.
 b6-b2/d6-d9/j6-j9/e6-b6/ White won.
 e1-e3/f8-i8/f10-i10/f7-f10/ Black won.
 d1-c1/d6-d3/b6-b3/e6-b6/ White won.
 f2-c2/f4-i4/j6-j4/f5-f2/ White won.
 f2-c2/f4-i4/f10-i10/f5-f2/ White won.

 Cluster Number 124 White Win %: 62.0 Black Win % 38.0 Draw % 0.0 Number
 of games: 13 Mean Discrepancy: 0.0

				A	A	A	A			
					A					
			A							
A								D		A
A					D	D	D			A
A	A		D	D	D	D	D		A	A
A				D	D					A
A					D					A
							A			
					A	D				
			A	A	A	A				

k8-i8/d6-d9/a4-c4/g7-j7/ Black won.
 d11-d9/f4-c4/h1-h3/e7-e10/ White won.
 h1-h3/f8-i8/d11-d9/g5-g2/ White won.
 h11-h9/f4-i4/d1-d3/g7-g10/ Black won.
 d1-d3/f8-c8/h11-h9/e5-e2/ Black won.
 d1-d3/f8-c8/h11-h9/e5-e2/ White won.
 h1-h3/f8-i8/d11-d9/g5-g2/ White won.
 a8-c8/h6-h9/k4-i4/e7-b7/ Black won.
 h1-h3/f8-i8/d11-d9/g5-g2/ White won.
 h1-h3/f8-i8/d11-d9/g5-g2/ White won.
 h1-h3/f8-i8/d11-d9/g5-g2/ Black won.
 h1-h3/f8-i8/d11-d9/g5-g2/ White won.
 h1-h3/f4-c4/d11-d9/e7-e10/ White won.

 Cluster Number 127 White Win %: 100.0 Black Win % 0.0 Draw % 0.0 Number
 of games: 6 Mean Discrepancy: 1.17

			A	A	A	A	A			
A						D				A
					D	D	D			A
A	A			D	D	D	D			A
A					D	D				A
A						D				A
								D		
			A	A	A	A	A			

e1-e2/g7-i7/f10-i10/f8-i8/ White won.
 e1-e2/e7-b7/b6-b3/f8-c8/ White won.
 a7-b7/f8-i8/j6-j9/g7-j7/ White won.
 f2-c2/g5-j5/j6-j9/f4-i4/ White won.
 f2-i2/f4-c4/b6-b3/e5-b5/ White won.
 j6-j3/f8-c8/b6-b9/e7-c7/ White won.

 Cluster Number 131 White Win %: 83.0 Black Win % 17.0 Draw % 0.0 Number
 of games: 6 Mean Discrepancy: 0.0

			A	A	A	A	A			
					A					
							D			
		A			D					A
A				D	D	D				A
A	A		D	D	D	D			A	A
A				D	D				D	A
A					D				A	
					A					
			A	A	A	A	A			

d1-d3/f8-c8/h11-h9/g7-g10/ White won.

d1-d3/f8-c8/h11-h9/g7-g10/ White won.

h1-h3/f8-i8/d11-d9/e7-e10/ White won.

h1-h3/f8-i8/d11-d9/e7-e10/ Black won.

k8-i8/d6-d9/a4-c4/e5-b5/ White won.

h1-h3/f8-i8/d11-d9/e7-e10/ White won.

#####

Cluster Number 132 White Win %: 46.0 Black Win % 50.0 Draw % 4.0 Number of games: 24 Mean Discrepancy: 1.06

			A	A	A	A	A			
A										A
A				D	D	D				A
A	A		D	D	D	D			A	A
A				D	D	D				A
					D					A
					A					
			A	A	A	A				

k4-i4/d6-d3/h1-h3/f8-i8/ Black won.

d1-d3/f8-c8/g11-g9/h6-h9/ Black won.

k8-i8/d6-d3/d11-d9/f4-i4/ White won.

h1-h3/f8-c8/b6-b9/d6-d3/ Black won.

d1-d3/f8-i8/k4-i4/d6-d9/ White won.

h1-h3/d6-d9/d11-d10/f8-i8/ Black won.

k8-i8/d6-d3/b6-b2/f4-c4/ White won.

h1-h3/d6-d9/d11-d10/f8-i8/ Black won.

d1-d3/h6-h9/j6-j9/f8-c8/ White won.

h1-h3/f8-i8/k4-i4/d6-d9/	White won.
h1-h3/f8-c8/g1-g3/d6-d9/	Black won.
d1-d3/f8-c8/a4-c4/h6-h9/	Black won.
k8-i8/f4-c4/g1-g3/d6-d3/	Black won.
d1-d3/f8-i8/e11-e9/h6-h3/	White won.
a8-c8/h6-h9/d11-d9/f4-c4/	White won.
h1-h3/f8-c8/e11-e9/d6-d3/	White won.
h1-h3/f8-c8/e11-e9/d6-d3/	Black won.
h1-h3/d6-d9/a5-c5/f8-c8/	Black won.
k4-i4/f8-c8/g11-g9/d6-d3/	White won.
h1-h3/f8-i8/j6-j9/d6-d9/	Draw.

.
.
.

Cluster Number 134 White Win %: 12.0 Black Win % 75.0 Draw % 12.0
Number of games: 8 Mean Discrepancy: 0.41

			A	A	A		A			
				D	A					
A					D					A
A					D	D				A
A	A			D	D	D	D		A	A
A				D	D	D				A
A					D			A		
					A					
			A	A	A	A	A			

h11-h9/e5-b5/a7-c7/f4-c4/	Draw.
k8-i8/e5-e2/g1-g3/d6-d2/	Black won.
h11-h9/e5-b5/a7-c7/f4-b4/	Black won.
h1-h3/e7-b7/a5-c5/f8-c8/	Black won.
h1-h3/f8-c8/f10-c10/e7-b7/	Black won.
k4-i4/d6-d9/f2-c2/e7-e10/	Black won.
d1-d3/g7-j7/k5-i5/f8-i8/	White won.
h1-h3/e7-b7/a5-c5/f8-c8/	Black won.

Cluster Number 136 White Win %: 57.0 Black Win % 43.0 Draw % 0.0 Number
of games: 7 Mean Discrepancy: 0.65

			A	A	A	A				
					A					
							A			
A										A
A				D	D					A
A	A		D	D	D	D	D		A	A
A					D	D				A
A					D					A
			A							
					A					
				A	A	A	A			

k4-i4/d6-d9/a8-c8/d9-a9/ White won.
 d1-d3/f8-c8/h11-h9/e5-e3/ White won.
 k8-i8/d6-d9/a4-c4/e5-e3/ Black won.
 d1-d3/f8-c8/h11-h9/c8-c1/ White won.
 h1-h3/f8-i8/d11-d9/g5-g3/ White won.
 k8-i8/d6-d9/a4-c4/e5-e3/ Black won.
 h1-h3/f8-i8/d11-d9/e7-c7/ Black won.

 Cluster Number 137 White Win %: 69.0 Black Win % 31.0 Draw % 0.0 Number
 of games: 13 Mean Discrepancy: 0.47

			A	A	A		A			
	D				A					
A					D					A
A					D	D				A
A	A		D	D	D	D	D		A	A
				D	D	D				A
A					D					A
							A			
					A					
			A	A	A	A				

k8-i8/e5-b5/a7-c7/b5-b2/ White won.
 h1-h3/e7-e10/g11-g9/e10-b10/ Black won.
 k4-i4/e7-b7/a5-c5/b7-b10/ White won.
 h1-h3/e7-b7/a5-c5/b7-b10/ Black won.
 h1-h3/e7-b7/a5-c5/b7-b9/ Black won.
 k8-i8/e5-b5/a7-c7/b5-b2/ White won.
 h1-h3/e7-b7/a5-c5/b7-b10/ White won.
 h1-h3/e7-b7/a5-c5/b7-b10/ Black won.

h1-h3/e7-b7/a5-c5/b7-b10/ White won.
 h1-h3/e7-b7/a5-c5/b7-b10/ White won.
 h1-h3/e7-b7/a5-c5/b7-b10/ White won.
 h1-h3/e7-e10/g11-g10/e10-b10/ White won.
 h1-h3/e7-b7/a5-c5/b7-b9/ White won.
 #####
 Cluster Number 139 White Win %: 65.0 Black Win % 29.0 Draw % 6.0 Number
 of games: 17 Mean Discrepancy: 0.82

				A	A	A				
					A					
			D							
A					D					A
A	D				D	D				A
A	A			D	D	D	D		A	A
A				D	D	D				A
A					D			A		
					A					
				A	A	A	A	A		

h11-h9/f4-c4/a8-c8/e5-e2/ White won.
 h1-h3/f8-c8/a4-c4/e7-e10/ Black won.
 d1-d3/f8-i8/k4-i4/g7-g10/ White won.
 d1-d3/f8-i8/k4-i4/g7-g10/ White won.
 h1-h3/e7-e10/f10-i10/f8-c8/ Black won.
 h11-h9/e5-e2/f2-i2/f4-c4/ White won.
 a4-c4/h6-h9/b6-b9/g7-j7/ White won.
 h1-h3/f8-c8/a8-b8/e7-e10/ White won.
 k8-i8/d6-d3/f2-c2/e5-b5/ White won.
 h1-h3/f8-c8/a8-a9/e7-e10/ Black won.
 h1-h3/f8-c8/a8-b8/e7-e10/ Black won.
 h1-h3/f8-c8/k8-i8/e7-e10/ White won.
 d1-d3/f8-i8/k4-i4/g7-g10/ White won.
 h1-h3/f8-c8/d1-c1/e7-e10/ Black won.
 h1-h3/f8-c8/a8-b8/e7-e10/ White won.
 h1-h3/f8-c8/a7-b7/e7-e10/ White won.
 d1-d3/f8-i8/j6-j9/g7-g10/ Draw.
 #####
 Cluster Number 140 White Win %: 62.0 Black Win % 25.0 Draw % 12.0
 Number of games: 8 Mean Discrepancy: 0.75

			A	A	A	A	A			
					A					
A					D					A
A				D	D					A
A	A		D	D	D	D				A
A				D	D	D				A
		A			D					A
							D			
					A					
			A	A	A	A	A			

h1-h3/e7-e9/b6-b9/f8-i8/ Black won.
 h11-h9/f4-i4/k7-i7/e5-b5/ White won.
 a4-c4/h6-h3/j6-h6/g7-i7/ White won.
 d11-d9/f4-c4/f2-c2/g5-j5/ Black won.
 h1-h3/f8-i8/f10-i10/e7-b7/ White won.
 d11-d9/f4-c4/f2-c2/g5-j5/ White won.
 h1-h3/f8-i8/f10-f8/e7-e9/ White won.
 d1-d3/f8-c8/b6-b9/g7-j7/ Draw.

 Cluster Number 142 White Win %: 33.0 Black Win % 67.0 Draw % 0.0 Number
 of games: 18 Mean Discrepancy: 0.26

			A	A	A	A	A			
					A					
			D							
A					D					A
A					D	D				A
A	A			D	D	D	D		A	A
A				D	D	D				A
		A			D			A		
					A					
			A	A	A	A	A			

h11-h9/f4-c4/h1-h3/e5-b5/ Black won.
 h11-h9/f4-c4/h1-h3/e5-e3/ Black won.
 a8-c8/h6-h3/k8-i8/g5-i5/ Black won.
 k8-i8/d6-d3/a8-c8/e5-e2/ Black won.
 h1-h3/f8-c8/h11-h9/e5-b5/ White won.
 h11-h9/f4-c4/h1-h3/e5-e2/ Black won.
 a8-c8/h6-h3/k8-i8/g5-j5/ Black won.

h1-h3/f8-c8/h11-h9/e7-e10/ Black won.
 k8-i8/d6-d3/a8-c8/e5-c5/ White won.
 k8-i8/d6-d3/a8-c8/g5-g2/ Black won.
 h1-h3/f8-c8/h11-h9/e7-e9/ White won.
 h11-h9/f4-c4/h1-h3/e5-e3/ Black won.
 h1-h3/f8-c8/h11-h9/e7-b7/ White won.
 k8-i8/d6-d3/a8-c8/e5-b5/ Black won.
 h1-h3/f8-c8/h11-h9/e7-b7/ White won.
 h1-h3/f8-f9/h11-h9/e7-b7/ Black won.
 h11-h9/f4-c4/h1-h3/e5-b5/ Black won.
 d1-d3/f8-i8/d11-d9/g7-g9/ White won.

#####

Cluster Number 146 White Win %: 92.0 Black Win % 8.0 Draw % 0.0 Number of games: 12 Mean Discrepancy: 0.61

			A	A	A	A	A			
					A					
		A				D				
A					D	D	D			A
A	A			D	D	D	D	D		A
A					D	D				A
A								D		A
					A	D				
			A	A	A	A	A			

d1-d3/g7-j7/j6-j2/h6-h9/ White won.
 h1-h3/e7-b7/b6-b2/d6-d9/ White won.
 h1-h3/d6-d9/h11-h9/e7-b7/ White won.
 h1-h3/d6-d9/d11-d10/e7-b7/ White won.
 h1-h3/d6-d9/h11-h9/e7-b7/ White won.
 h1-h3/d6-d9/h11-h9/e7-b7/ White won.
 h1-h3/d6-d9/h11-h9/e7-b7/ White won.
 h11-h9/d6-d3/f2-c2/e5-b5/ White won.
 h1-h3/d6-d9/h11-h9/e7-b7/ White won.
 h1-h3/d6-d9/e11-e10/e7-b7/ White won.
 d1-d3/h6-h9/d11-d9/g7-j7/ Black won.
 a4-c4/f8-i8/k4-i4/g7-g10/ White won.

#####

Cluster Number 150 White Win %: 31.0 Black Win % 66.0 Draw % 3.0 Number of games: 68 Mean Discrepancy: 1.34

			A	A	A	A				
					A					
A										
A				D	D	D				A
A	A			D	D	D	D		A	A
A				D	D	D				A
A										A
							A			
					A					
			A	A	A	A				

k8-i8/h6-h9/h11-h10/h9-k9/ White won.
 k8-i8/h6-h9/k7-i7/h9-k9/ White won.
 h1-h3/f8-i8/h11-h9/i8-i1/ Black won.
 d11-d9/f4-i4/d1-d3/h6-h9/ Black won.
 h1-h3/f4-i4/g1-g3/i4-i1/ White won.
 k8-i8/d6-d9/a8-c8/f4-c4/ Black won.
 h1-h3/d6-d9/h11-h9/f8-c8/ Black won.
 k8-i8/h6-h9/h11-h10/h9-k9/ White won.
 h1-h3/f8-c8/h11-h9/d6-d9/ Black won.
 h1-h3/f4-i4/h11-i11/i4-i1/ White won.
 k4-i4/d6-d9/a4-c4/f8-c8/ Black won.
 h1-h3/d6-d9/h11-h9/f8-i8/ White won.
 h1-h3/f4-i4/k4-j4/i4-i1/ White won.
 h1-h3/f4-i4/g1-g3/i4-i1/ Black won.
 h1-h3/f4-i4/g1-g3/i4-i9/ Black won.
 k8-i8/d6-d3/a8-c8/f4-c4/ Black won.
 k8-i8/d6-d3/a8-c8/f4-c4/ Draw.
 k8-i8/d6-c6/d1-d6-c6/e5-c5/ Black won.
 h11-h9/f4-i4/h1-h3/i4-i1/ White won.
 h1-h3/f8-b8/k8-c8-b8/e7-e10/ Black won.

.
.

 Cluster Number 151 White Win %: 57.0 Black Win % 43.0 Draw % 0.0 Number
 of games: 7 Mean Discrepancy: 0.57

			A	A	A					
				D	A					
A					D					A
A					D	D				A
A	A			D	D	D	D		A	A
A				D	D	D				A
A					D					A
							A			
					A					
			A	A	A	A				

k8-i8/e5-b5/a7-c7/f4-b4/ Black won.

h1-h3/d6-d10/a4-d4/e7-e10/ White won.

k8-i8/e5-b5/a7-b7/f4-b4/ White won.

h1-h3/d6-d9/h11-h9/e5-e2/ Black won.

h11-h9/d6-d3/h1-h3/e5-e2/ White won.

h1-h3/d6-d10/h11-h9/e7-e10/ White won.

h1-h3/d6-d9/h11-h9/e7-e10/ Black won.

#####

Cluster Number 152 White Win %: 33.0 Black Win % 67.0 Draw % 0.0 Number of games: 21 Mean Discrepancy: 0.6

				A	A	A	A			
					A					
			A							
A								D		A
A					D	D				A
A	A			D	D	D	D	D		A
A					D	D				A
		A				D				A
					A					
				A	A	A	A	A		

h1-h3/d6-d9/a4-c4/g7-j7/ White won.

k4-i4/f8-c8/h11-h9/e7-e10/ Black won.

d1-d3/h6-h9/k4-i4/g6-i6/ Black won.

k8-i8/f4-c4/h1-h3/e7-e10/ Black won.

a4-c4/f8-i8/d11-d9/g5-g2/ Black won.

d11-d9/h6-h3/k8-i8/e5-b5/ White won.

h1-h3/d6-d2/a4-c4/e7-b7/ White won.

k8-i8/f4-c4/h1-h3/e5-e3/ Black won.

k8-i8/f4-c4/h1-h3/e7-e10/ Black won.
 h11-h9/d6-d3/a8-c8/g5-j5/ Black won.
 k8-i8/f4-c4/h1-h3/e7-e10/ White won.
 a8-c8/f4-i4/d1-d3/g7-g10/ Black won.
 k8-i8/f4-c4/h1-h3/e5-e2/ Black won.
 h1-h3/d6-d9/a4-c4/e7-c7/ Black won.
 d1-d3/h6-h9/k4-i4/g7-g10/ Black won.
 d1-d3/h6-h9/k4-i4/g7-j7/ Black won.
 h1-h3/d6-d10/a4-c4/e7-e10/ White won.
 h1-h3/d6-d9/a4-c4/g7-i7/ White won.
 k4-i4/f8-c8/h11-h9/e7-b7/ Black won.
 d1-d3/h6-h9/k4-i4/e7-b7/ Black won.

.
.

#####

Cluster Number 154 White Win %: 43.0 Black Win % 57.0 Draw % 0.0 Number of games: 7 Mean Discrepancy: 0.37

			A	A	A	A	A			
					A					
		A				D				A
A					D	D	D			A
A	A				D	D	D	D		A
A						D	D			A
A						D				A
						A				
			A	A	A	A				

k8-i8/f4-i4/d1-d3/g5-g3/ White won.
 k8-i8/h6-h3/d1-d3/g5-g3/ Black won.
 h1-h3/d6-d3/a8-c8/e5-c5/ Black won.
 h1-h3/d6-d3/a8-c8/e5-b5/ White won.
 h1-h3/f4-c4/a4-a3/e5-e3/ White won.
 a4-d4/f8-c8/h11-h9/e7-e9/ Black won.
 d1-d3/f4-i4/k8-i8/g5-g2/ Black won.

#####

Cluster Number 155 White Win %: 55.0 Black Win % 43.0 Draw % 1.0 Number of games: 145 Mean Discrepancy: 1.46

			A	A	A	A	A			
					A					
A					D					
A				D	D	D				A
A	A			D	D	D				A
A				D	D	D				A
										A
					A					
			A	A	A	A	A			

h1-h3/h6-h9/d11-d9/f8-i8/ Black won.
 d1-d3/f4-i4/k8-i8/h6-h9/ Black won.
 h1-h3/f4-i4/g1-g3/g7-g10/ Black won.
 h1-h3/f4-i4/g1-g3/g7-g10/ Black won.
 h11-h9/f8-i8/g11-i11/e7-e10/ Black won.
 h1-h3/d6-d9/a8-c8/e5-b5/ White won.
 k4-i4/d6-d9/a8-c8/g7-g10/ White won.
 k8-i8/f4-c4/k4-i4/h6-h3/ White won.
 a8-c8/d6-d9/d1-d3/h6-h9/ White won.
 h1-h3/d6-d3/a8-c8/f4-i4/ Black won.
 a4-c4/d6-d3/a5-a3/e7-b7/ White won.
 k8-i8/d6-d9/f10-c10/h6-h9/ White won.
 k8-i8/h6-h9/k7-k9/g5-j5/ Black won.
 a4-c4/f8-c8/h11-h9/d6-d9/ Draw.
 h1-h3/f4-i4/k8-i8/d6-d3/ Black won.
 h1-h3/d6-d3/a4-c4/f8-c8/ Black won.
 k8-i8/h6-h9/k7-i7/g5-j5/ White won.
 h1-h3/f4-i4/f2-i2/f8-i8/ White won.
 a4-c4/d6-d3/a5-a3/g5-j5/ Black won.
 d1-d3/f4-c4/f2-c2/f5-f2/ White won.

.
.

 Cluster Number 156 White Win %: 61.0 Black Win % 33.0 Draw % 6.0 Number
 of games: 18 Mean Discrepancy: 1.18

			A	A	A	A				
					A					
							D			
										A
A					D	D	D			A
A	A			D	D	D				A
A					D	D	D			A
					A					
			A	A	A	A	A			

h1-h3/f8-c8/a8-b8/d6-d8/ White won.
 d1-d3/f8-i8/f10-i10/f7-f10/ White won.
 d1-d3/f8-i8/f10-i10/f7-f10/ Black won.
 h1-h3/f8-i8/k8-j8/h6-h9/ White won.
 a4-c4/h6-h3/k4-k3/f4-k4/ White won.
 h1-h3/f8-c8/a8-b8/h6-h9/ Black won.
 h1-h3/f8-c8/f10-c10/f7-f10/ White won.
 d1-d3/f8-i8/f10-i10/d6-d9/ Black won.
 d1-d3/f8-i8/f10-i10/f7-f10/ White won.
 h1-h3/f8-c8/g11-g9/h6-h9/ White won.
 a8-c8/h6-h9/k7-i7/f8-i8/ Black won.
 h1-h3/f8-i8/g1-i1/h6-h9/ Black won.
 h1-h3/f8-i8/h11-i11/h6-h9/ White won.
 h1-h3/f8-i8/h11-i11/h6-h11/ White won.
 h11-h9/f4-i4/k4-j4/h6-h3/ White won.
 d11-d9/f4-c4/a4-b4/d6-d3/ Draw.
 a4-c4/f4-i4/k4-j4/h6-h4/ Black won.
 a4-c4/h6-h9/j6-j9/g6-i6/ White won.

#####

Cluster Number 160 White Win %: 73.0 Black Win % 27.0 Draw % 0.0 Number
 of games: 11 Mean Discrepancy: 0.79

			A	A	A	A	A			
					A					
		A			D					A
A				D	D	D				A
A	A		D	D	D	D	D			A
A				D	D					A
A								D		A
			A	A	A	A	A			

d1-d3/h6-h9/f10-j10/g7-g10/ Black won.

h1-h3/e7-e10/f10-i10/d6-d9/ White won.

k8-i8/e5-b5/b6-b9/f4-b4/ Black won.

a8-c8/f4-i4/e1-e3/g5-j5/ White won.

k8-i8/e5-b5/b6-b9/f4-c4/ White won.

h1-h3/d6-d9/b6-b9/e7-e10/ Black won.

h1-h3/d6-d9/a7-b7/e7-e9/ White won.

h1-h3/d6-d9/a7-b7/e7-e9/ White won.

a4-c4/f8-i8/f10-i10/g7-j7/ White won.

d1-d3/h6-h9/j6-j9/g7-g10/ White won.

a4-c4/f8-i8/e11-e9/g7-g9/ White won.

#####

Cluster Number 161 White Win %: 68.0 Black Win % 31.0 Draw % 1.0 Number of games: 71 Mean Discrepancy: 0.75

			A	A	A	A	A			
					A					
					D					A
A				D	D	D				A
A	A		D	D	D	D	D		A	A
A					D	D				A
A					D			A		
			D							
					A					
			A	A	A	A				

h11-h9/f4-i4/k8-i8/g5-g2/ Black won.

h1-h3/f8-i8/k4-i4/g7-g9/ Black won.

h1-h3/f8-i8/g1-g3/g7-g10/ Black won.

h1-h3/f8-i8/d11-d9/g7-g9/ Black won.

h1-h3/f8-i8/k4-i4/g7-j7/ a4-c4/h6-h3/a5-a3/g5-j5/	Black won. White won.
h1-h3/f8-i8/d11-d9/g7-g10/	White won.
h1-h3/f8-i8/d11-d9/g7-g10/	White won.
h1-h3/f8-i8/k4-i4/g7-g10/	Black won.
h11-h9/f4-i4/k8-i8/g5-g2/	Draw.
h1-h3/f8-i8/d11-d9/g7-i7/	White won.
h1-h3/f8-i8/k8-j8/g7-g10/	White won.
k8-i8/d6-d9/j6-j9/e7-b7/	White won.
h1-h3/f8-i8/d11-d9/g7-g10/	Black won.
h1-h3/f8-i8/a8-c8/g7-g10/	White won.
k8-i8/d6-d9/b6-d6/e7-c7/	White won.
h1-h3/f8-i8/f10-f9/g7-g9/	White won.
h1-h3/f8-i8/k8-k9/g7-g10/	White won.
k8-i8/d6-d9/h11-h9/e7-e9/	White won.
h1-h3/f8-i8/k4-i4/g7-g10/	White won.
.	
.	
.	