

initial  
state

	2	1
6	7	4
3	8	5

$s_1$

1	2	3
8		4
7	6	5

$d=12$

2		1
6	7	4
3	8	5

$s_{21}$

6	2	1
	7	4
3	8	5

$s_{12}$

$d=13$

$d=13$

2	7	1
6		4
3	8	5

$s_{31}$

$d=14$

2	1	
6	7	4
3	8	5

$s_{32}$

$d=12$

2	1	4
6	7	
3	8	5

$s_4$

$d=13$

2	1	4
6		7
3	8	5

$s_{51}$

2	1	4
6	7	5
3	8	

$s_{52}$



For initial state:

blocks 2, 4 and 5 in place already

block	state 1	state 2	state 22
1	2	2	2
2	0	1 *	0
3	4	4	4
4	0	0	0
5	0	0	0
6	2	2	3 *
7	2	2	2
8	2	2	2
Total	12	13	13

\* is the only block that changes distance to reach final point