DFS_DLUR SOLUTIONS

Test 1:
Enter number of rows and columns: 3 1 3 5 4 2 0 7 8 6 1 2 3 4 5 6 7 8 0

Enter Start State row by row:
1 3 5
4 2 0
7 8 6

Enter Goal State row by row:
1 2 3
4 5 6
7 8 0

****Solution Found****
Nodes Expanded = 577

1 3 5
4 2 0
7 8 6

up

1 3 0
4 2 5
7 8 6

left

1 0 3
4 2 5
7 8 6

left

0 1 3
4 2 5
7 8 6
**** MANY MORE MOVES ****
1 2 3
4 5 6
0 7 8

right

1 2 3
4 5 6
7 0 8

right

1 2 3
4 5 6
7 8 0

Moves = 565

Test 2:
Enter number of rows and columns: 3 1 2 3 4 5 6 7 8 0 1 2 3 4 5 6 7 8 0

Enter Start State row by row:
1 2 3
4 5 6
7 8 0

Enter Goal State row by row:
1 2 3
4 5 6
7 8 0

Solution found immediately: start state is the goal state.

Test 3:
Enter number of rows and columns: 2 1 2 0 3 1 2 3 0

Enter Start State row by row:
1 2
0 3

Enter Goal State row by row:
1 2
3 0

****Solution Found****
Nodes Expanded = 1

1 2
0 3

right

1 2
3 0

Moves = 1

Test 4:
Enter number of rows and columns: 3 1 3 4 8 6 2 7 0 5 1 2 3 8 0 4 7 6 5

Enter Start State row by row:
1 3 4
8 6 2
7 0 5

Enter Goal State row by row:
1 2 3
8 0 4
7 6 5

****Solution Found****
Nodes Expanded = 24505

1 3 4
8 6 2
7 0 5

right

1 3 4
8 6 2
7 5 0

up

1 3 4
8 6 0
7 5 2

up

1 3 0
8 6 4
7 5 2

…. Many more moves

1 2 3
0 8 4
7 6 5

right

1 2 3
8 0 4
7 6 5

Moves = 23427

Test 5:
Enter number of rows and columns: 3 1 2 3 4 0 6 7 5 8 1 2 3 4 5 6 7 8 0

Enter Start State row by row: 1 2 3
4 0 6
7 5 8

Enter Goal State row by row: 1 2 3
4 5 6
7 8 0

****Solution Found****
Nodes Expanded = 320

1 2 3
4 0 6
7 5 8

right

1 2 3
4 6 0
7 5 8

up

1 2 0
4 6 3
7 5 8

left

1 0 2
4 6 3
7 5 8

left

0 1 2
4 6 3
7 5 8

**** MANY MORE MOVES ****

1 2 3
4 5 0
7 8 6

down

1 2 3
4 5 6
7 8 0

Moves = 306