```
8-Puzzle problem using A* search Algorithm
Enter the Current State
0 1 3
4 2 5
7 8 6
Enter the Goal State
1 2 3
4 5 6
7 8 0
Enter the heuristic number that you want to proceed with
1. Manhattan
2. Misplaced Tiles
1
------------------------------------------------------
Level 0 - [[0,1,3][4,2,5][7,8,6]]
------------------------------------------------------
Node Chosen for Level 1 - [[0,1,3][4,2,5][7,8,6]]

Generated Nodes :
-----------------
[[1,0,3][4,2,5][7,8,6]] - f(n) =  1 + 3 = 4
[[4,1,3][0,2,5][7,8,6]] - f(n) =  1 + 5 = 6
------------------------------------------------------
Node Chosen for Level 2 - [[1,0,3][4,2,5][7,8,6]]

Generated Nodes :
-----------------
[[1,3,0][4,2,5][7,8,6]] - f(n) =  2 + 4 = 6
[[0,1,3][4,2,5][7,8,6]] - Already visited Node!
[[1,2,3][4,0,5][7,8,6]] - f(n) =  2 + 2 = 4
------------------------------------------------------
Node Chosen for Level 3 - [[1,2,3][4,0,5][7,8,6]]

Generated Nodes :
-----------------
[[1,0,3][4,2,5][7,8,6]] - Already visited Node!
[[1,2,3][4,5,0][7,8,6]] - f(n) =  3 + 1 = 4
[[1,2,3][0,4,5][7,8,6]] - f(n) =  3 + 3 = 6
[[1,2,3][4,8,5][7,0,6]] - f(n) =  3 + 3 = 6
------------------------------------------------------
Node Chosen for Level 4 - [[1,2,3][4,5,0][7,8,6]]

Generated Nodes :
-----------------
[[1,2,0][4,5,3][7,8,6]] - f(n) =  4 + 2 = 6
[[1,2,3][4,0,5][7,8,6]] - Already visited Node!
[[1,2,3][4,5,6][7,8,0]] - f(n) =  4 + 0 = 4
------------------------------------------------------
Node Chosen for Level 5 - [[1,2,3][4,5,6][7,8,0]]
The goal path found...
--------------------------
[[0,1,3][4,2,5][7,8,6]]
```

```
[[1,0,3][4,2,5][7,8,6]]
[[1,2,3][4,0,5][7,8,6]]
[[1,2,3][4,5,0][7,8,6]]
[[1,2,3][4,5,6][7,8,0]]
--------------------------
Time Taken : 12 milliseconds
The number of nodes that are generated are : 12
The number of nodes that are expanded are : 5
```