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sinchana 1bm23cs329
Enter the START state:
Enter 9 numbers separated by space, use 0 for blank tile (e.g. '2 8 3 1 6 4 7 0 5'):
2 8 3 1 6 4 7 0 5
Enter the GOAL state:
Enter 9 numbers separated by space, use 0 for blank tile (e.g. '2 8 3 1 6 4 7 0 5'):
1 2 3 8 0 4 7 6 5

Starting A* search with Manhattan distance heuristic...

Step 1:
Current state with f = g + h = 0 + 5 = 5
2 8 3
1 6 4
7   5

Expanding neighbors (3):
Neighbor state with g=1, h=4, f=5:
2 8 3
1   4
7 6 5

Neighbor state with g=1, h=6, f=7:
2 8 3
1 6 4
  7 5

Neighbor state with g=1, h=6, f=7:
2 8 3
1 6 4
7 5

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Step 2:
Current state with f = g + h = 1 + 4 = 5
2 8 3
1   4
7 6 5
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Step 2:
Current state with f = g + h = 1 + 4 = 5
2 8 3
1   4
7 6 5

Expanding neighbors (4):
Neighbor state with g=2, h=3, f=5:
2   3
1 8 4
7 6 5

Neighbor already visited, skipping.
Neighbor state with g=2, h=5, f=7:
2 8 3
  1 4
7 6 5

Neighbor state with g=2, h=5, f=7:
2 8 3
1 4
7 6 5

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Step 3:
Current state with f = g + h = 2 + 3 = 5
2   3
1 8 4
7 6 5

Expanding neighbors (3):
Neighbor already visited, skipping.
Neighbor state with g=3, h=2, f=5:
  2 3
1 8 4
7 6 5
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Neighbor state with g=3, h=4, f=7:
2 3
1 8 4
7 6 5


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Step 4:
Current state with f = g + h = 3 + 2 = 5
  2 3
1 8 4
7 6 5

Expanding neighbors (2):
Neighbor state with g=4, h=1, f=5:
1 2 3
  8 4
7 6 5

Neighbor already visited, skipping.
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Step 5:
Current state with f = g + h = 4 + 1 = 5
1 2 3
  8 4
7 6 5

Expanding neighbors (3):
Neighbor already visited, skipping.
Neighbor state with g=5, h=2, f=7:
1 2 3
7 8 4
  6 5

Neighbor state with g=5, h=0, f=5:
1 2 3
8   4
7 6 5


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Step 6:
Current state with f = g + h = 5 + 0 = 5
1 2 3
8   4
7 6 5

Goal reached!

Solution found in 5 moves:

Step 0:
2 8 3
1 6 4
7   5

Step 1:
2 8 3
1   4
7 6 5

Step 2:
2   3
1 8 4
7 6 5

Step 3:
  2 3
1 8 4
7 6 5

Step 4:
1 2 3
  8 4
7 6 5

Step 5:
1 2 3
8   4
7 6 5
```