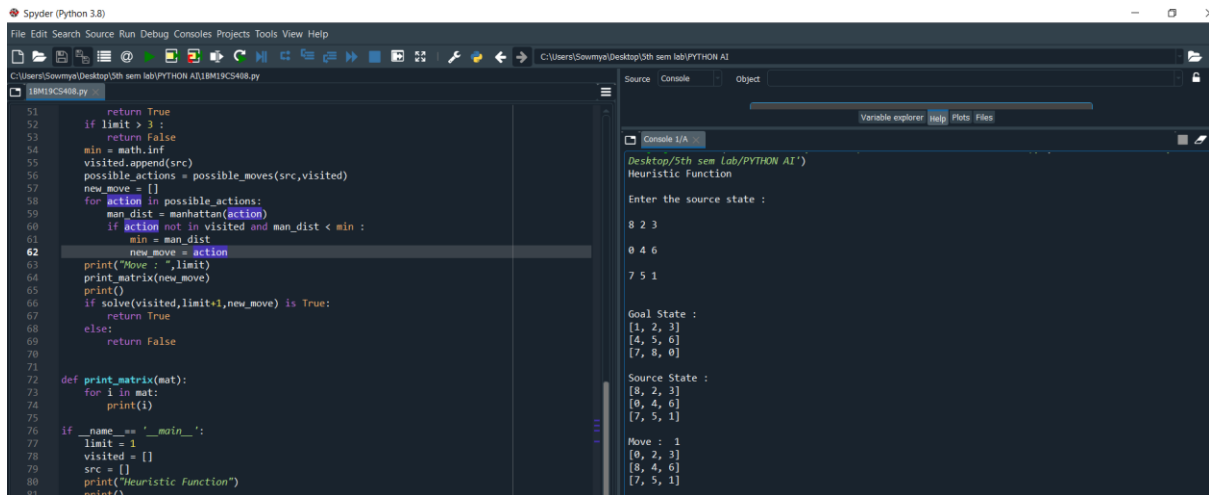


OUTPUT(1bm19cs408)



The screenshot shows the Spyder Python IDE interface. The left pane displays a Python script named `1bm19cs408.py` with the following code:

```
51     return True
52     if limit > 3 :
53         return False
54     min = math.inf
55     visited.append(src)
56     possible_actions = possible_moves(src,visited)
57     new_move = []
58     for action in possible_actions:
59         man_dist = manhattan(action)
60         if action not in visited and man_dist < min :
61             min = man_dist
62             new_move = action
63     print("Move : ",limit)
64     print_matrix(new_move)
65     print()
66     if solve(visited,limit+1,new_move) is True:
67         return True
68     else:
69         return False
70
71
72 def print_matrix(mat):
73     for i in mat:
74         print(i)
75
76 if __name__ == '__main__':
77     limit = 1
78     visited = []
79     src = []
80     print("Heuristic Function")
81     print()
```

The right pane shows the console output for `Console 1/A`:

```
Desktop/5th sem Lab/PYTHON AI')
Heuristic Function
Enter the source state :
8 2 3
0 4 6
7 5 1

Goal State :
[1, 2, 3]
[4, 5, 6]
[7, 8, 0]

Source State :
[8, 2, 3]
[0, 4, 6]
[7, 5, 1]

Move : 1
[0, 2, 3]
[8, 4, 6]
[7, 5, 1]
```



The screenshot shows a terminal window with the following output:

```
move : 2
[2, 0, 3]
[8, 4, 6]
[7, 5, 1]

Move : 3
[2, 4, 3]
[8, 0, 6]
[7, 5, 1]

No Solution !

In [50]: runfile('C:/Users/Sowmya/Desktop/5th sem Lab/PYTHON AI/exam1.py', wdir='C:/Users/Sowmya/Desktop/5th sem Lab/PYTHON AI')
Heuristic Function

Enter the source state :
1 2 3
4 5 6
7 8 0

Goal State :
[1, 2, 3]
[4, 5, 6]
[7, 8, 0]

Source State :
[1, 2, 3]
[4, 5, 6]
[7, 8, 0]

Required moves to reach the goal state : 0
The puzzle has been solved!
```