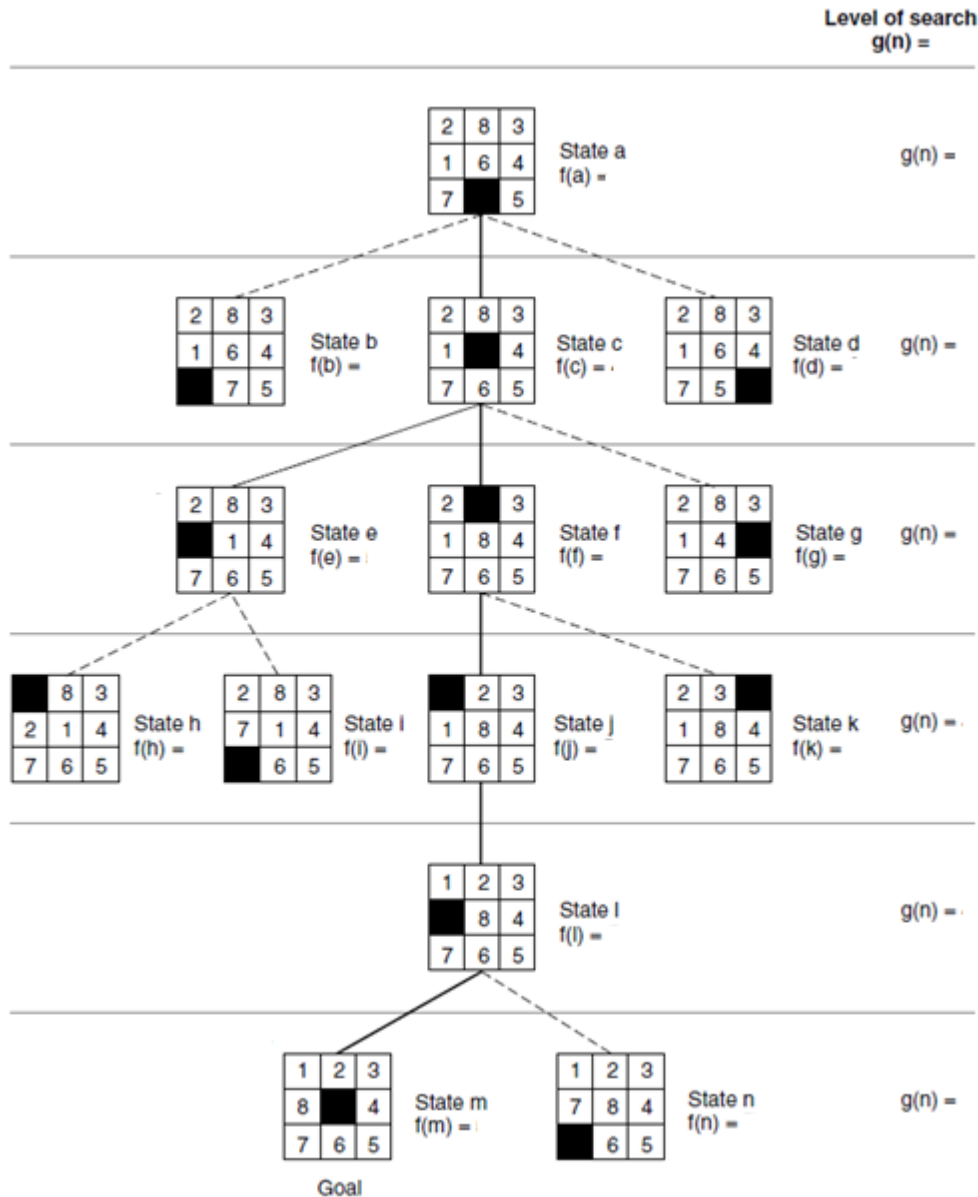You are required to solve 8-puzzle game using A* in python, the goal of this assignment is not only to solve the game, but also to reach the goal using optimal path. For this purpose, you will use the heuristic discussed in class. Assume that tiles can also occur in reverse order. One of scenario of the game discussed in class is depicted here:

Level of search
g(n) =

For simplicity you can choose to ignore the cycles e.g., game states which have already been visited shall not be visited again.

Important notes:

1. The assignment will be assessed on the basis of accuracy and optimality of solutions, you can choose your own schemes for visual representation of different game states.

2. The game should work on all scenario and incorporate some mechanism of taking input from user about start state using command line or file.
3. As part of output, it is expected to show the complete game scenario connected to each other from start until goal.