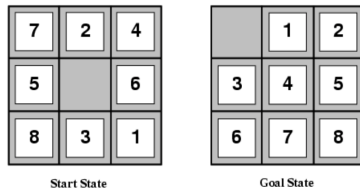# Homework 2

Write your code that dynamically solves the problem of N-puzzle given below (e.g. 8-puzzle) and displays each step as the *tree structure*.
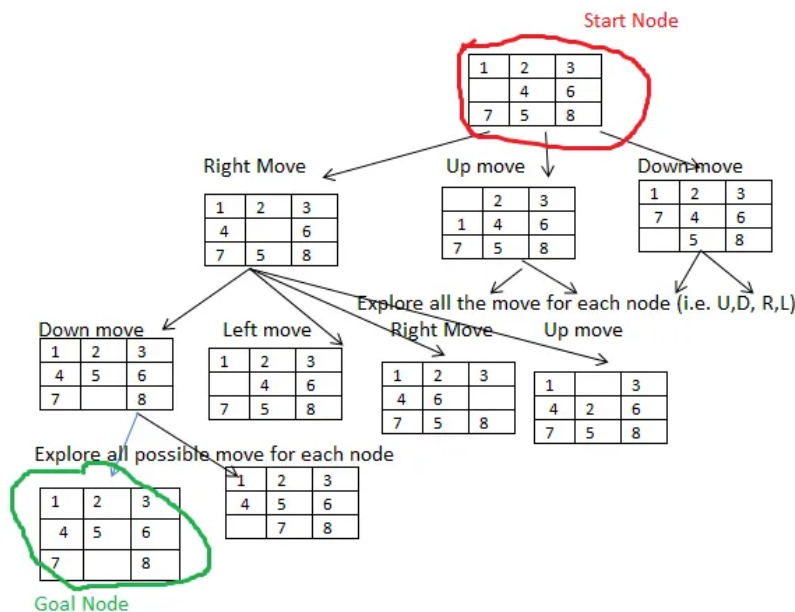
Notes:

▪ The application should be made according to the graphic below as much as possible. If you have any problems in this regard, skip the issue of display with graphics and print the outputs as text.

▪ The value N must be entered by the user. The start and goal states should be randomly generated.

Start State   Goal State

- states? — Consists of a 3x3 board with 8 numbered tiles and a blank space.
- actions?
- goal test? — A tile adjacent to the blank space can slide into the space.
- path cost?
  - The object is to reach a specified goal state, such as the one shown on the right.

The example of expansion tree for the 8-puzzle:

▪ Upload the code imlementation in the format *"hw2_name_surname.zip"* to GUZEM until October 25, 2022; 23:59

▪ You can use any programming language you want for the implementation. But out of the basic input/output functions, ready packages/libraries/codes and similar structures will not be used. Please send your questions to *yilmazatay@gazi.edu.tr*.