**Project 1 [ENPM661]**

by-Harsh Kakashaniya[116311236]

**Readme.**

1. To run the code first uncompress the folder in the desired location.
2. Go to the desired location and open terminal.
3. Now type.

python3 Project1\_spacecomplexity.py

or

python3 Project1\_timecomplexity.py

Input Desired matrix one element at a time according to the instructions in terminal.

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

then user will input values like...

1 <enter> 2 <enter> 3 ..... <enter> 0

Then terminal will print nodes it is exploring and give the final output.

Then it will explore the solutions with BFS and provide you with 3 txt files named.

Node.txt

NodeInfo.txt

nodePath.txt

Your terminal will give a path to solve the puzzle in terms of directions as well.

So these text files can be used to run on Matlab script.

Hence following is the method to run the program.

Note:

I am attaching 2 files

Project1\_timecomplexity.py

This file have non repeated nodes but it takes time to give result.

Project1\_spacecomplexity,py

This file gives results in seconds but have repeated nodes but have perfect node info.

So in practical senario

I suggest if we are given 1 target configuration first run

Project1\_spacecomplex.py

and if no answer to be double sure run.

Project1\_timecomplex.py

Hope you like the program.

**Thanks...**