

+ source code

지름길은 library 에 있는 원소만 사용하면 된다.

1. Solve the four given 8-puzzle problems with Depth First search (DFS), and Breadth First search (BFS).

\* Problems:

4	1	
6	3	2
7	5	8

P1

4	3	1
6	5	2
	7	8

P2

3	1	
4	5	2
6	7	8

P3

	1	2
3	4	5
6	7	8

P4

- Fill in the blanks of the following table if find answer

	P1			P2			P3			P4		
	VISIT	OPEN	LEN	VISIT	OPEN	LEN	VISIT	OPEN	LEN	VISIT	OPEN	LEN
DFS	51913	34856	51023	39652	26126	36933	91884	42438	66509	113906	42683	63163
BFS	609	359	11	4006	2215	15	19540	9560	19	83183	23915	23

VISIT: the total number of visited nodes

OPEN: the maximum size of the OPEN list

LEN: the length of the found solution

## 2. Solve the four given 8-puzzle problems with A\*

### \* Problems:

4	1	
6	3	2
7	5	8

P1

4	3	1
6	5	2
	7	8

P2

3	1	
4	5	2
6	7	8

P3

	1	2
3	4	5
6	7	8

P4

### \* Heuristic

H1: # of tiles out of place

H2: summation of the manhattan distance to the place

- Fill in the blanks of the following table

		P1			P2			P3			P4		
		VISIT	OPEN	LEN	VISIT	OPEN	LEN	VISIT	OPEN	LEN	VISIT	OPEN	LEN
A*	H1	32	24	11	194	126	15	131	115	19	<del>644</del>	353	23
	H2	13	12	11	44	35	15	156	107	19	186	419	23

VISIT: the total number of visited nodes

OPEN: the maximum size of the OPEN list

LEN: the length of the found solution