

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

	P1			P2			P3			P4		
	VISIT	OPEN	LEN	VISIT	OPEN	LEN	VISIT	OPEN	LEN	VISIT	OPEN	LEN
DFS												
BFS												

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												
	H2												

VISIT: the total number of visited nodes

OPEN: the maximum size of the OPEN list

LEN: the length of the found solution