AI FINAL PROJECT REPORT

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Begüm İş

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https://github.com/EmrahFidan/AI-final-project

7	1	8
	4	6
2	3	5

Initial State

1	2	3
4	5	6
7	8	

Goal State

EIGHT PUZZLE PROBLEM

1. Breadth First Search

```
PS C:\Users\emrah\Desktop\AI-final-project>

Solution completed in 25 steps.

Nodes Expanded: 159591

Solution Depth: 25

Path Cost:  110

Time taken: 3.0094 seconds
```

2. Depth First Search

```
PS C:\Users\emrah\Desktop\AI-final-project>

Solution completed in 75639 steps.

Nodes Expanded: 81586

Solution Depth: 75639

Path Cost: 341174

Time taken: 1.7422 seconds
```

3. Depth Limited Search

```
Running Depth Limited Search with max depth limit: 37


Solution completed in 35 steps.

Nodes Expanded: 34117

Solution Depth: 35

Path Cost: 150

Time taken: 7.5306 seconds
```

4. Iterative Deepening Search

```
PS C:\Users\emrah\Desktop\AI-final-project>
Enter maximum depth limit: 26
Solution completed in 18 steps.
Nodes Expanded: 307845
Solution Depth: 25
Path Cost: 85
Time taken: 285.6984 seconds
```

5. A Star Search

```
PS C:\Users\emrah\Desktop\AI-final-project>

Solution completed in 23 steps.

Nodes Expanded: 1850

Solution Depth: 23

Path Cost: 23

Time taken:. 0.5382 seconds
```

CONCLUSION

ALGORITHMS	NODES EXPANDED	PATH COST	SOLUTION DEPTH	TIME (seconds)
BREADTH FIRST SEARCH	159591	110	25	3.0094
DEPTH FIRST SEARCH	81586	341174	75639	1.7422
DEPTH LIMITED SEARCH	34117	150	35	7.5306
ITERATIVE DEEPENING SEARCH	307845	85	25	285.6984
A* SEARCH	1850	23	23	0.5382