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Performance A*, BFS and IDDFS

15 Puzzle solver using A*employing heuristics (No. of misplaced tiles and Sum of Manhattan Distances)

Test case 1:

Initial Board State–

1	2	3	4
5	6	7	8
9	10	0	12
13	14	11	15

Search Strategy	Memory usage	Running time	Number of expanded nodes.	Path to goal node.
BFS	1640	10 Ms	5	NA
ID-DFS (Depth 3)	408	10 Ms	42	NA
A* (No. of Misplaced tiles)	200	1 Ms	2	D R
A* (Sum of Manhattan Distance)	1088	1 Ms	2	D R

Test case 2:

Initial Board State –

1	2	3	4
5	0	7	8
9	6	10	12
13	14	11	15

Search Strategy	Memory usage	Running time	Number of expanded nodes.	Path to goal node.
BFS	23288	32 Ms	53	NA
ID-DFS (with Depth 6)	22848	281 Ms	839	NA
A* (No. of Misplaced tiles)	1912	1 Ms	4	D R D R
A* (Sum of Manhattan Distance)	2384	1 Ms	4	D R D R

Test case 3:

Initial Board State –

1	2	7	3
5	6	0	4
9	10	11	8
13	14	15	12

Search Strategy	Memory usage	Running time	Number of expanded nodes.	Path to goal node.
BFS	121072	90 Ms	260	NA
ID-DFS (with Depth 6)	16296	120 Ms	587	NA
A* (No. of Misplaced tiles)	1944	1 Ms	5	U R D D D
A* (Sum of Manhattan Distance)	2208	1 Ms	5	U R D D D