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1 C:\Users\hhpha\AppData\Local\Programs\Python\Python39
  \python.exe C:/Users/hhpha/Desktop/cs170_project1/
  Eight_Puzzle/main.py
2 Welcome to 8 Puzzle Solver!
3 Select (1) to try a default puzzle or (2) to input
  your own.
4 1
5 Select your default puzzle level.
6 (1) for Easy
7 (2) for Medium
8 (3) for Hard
9 2
10 Select your algorithm.
11 (1) for Uniform Cost
12 (2) for Misplaced Tile Heuristic
13 (3) for Manhattan Distance Heuristic
14 3
15 Best state to expand with g(x):  0  and h(x):  12
16 [1, 6, 7]
17 [5, 0, 3]
18 [4, 8, 2]
19
20
21 Best state to expand with g(x):  1  and h(x):  11
22 [1, 0, 7]
23 [5, 6, 3]
24 [4, 8, 2]
25
26
27 Best state to expand with g(x):  1  and h(x):  11
28 [1, 6, 7]
29 [0, 5, 3]
30 [4, 8, 2]
31
32
33 Best state to expand with g(x):  2  and h(x):  10
34 [1, 7, 0]
35 [5, 6, 3]
36 [4, 8, 2]
37
38
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39 Best state to expand with g(x): 2 and h(x): 10
40 [1, 6, 7]
41 [4, 5, 3]
42 [0, 8, 2]
43
44
45 Best state to expand with g(x): 3 and h(x): 9
46 [1, 7, 3]
47 [5, 6, 0]
48 [4, 8, 2]
49
50
51 Best state to expand with g(x): 4 and h(x): 8
52 [1, 7, 3]
53 [5, 6, 2]
54 [4, 8, 0]
55
56
57 Best state to expand with g(x): 4 and h(x): 8
58 [1, 7, 3]
59 [5, 0, 6]
60 [4, 8, 2]
61
62
63 Best state to expand with g(x): 5 and h(x): 7
64 [1, 0, 3]
65 [5, 7, 6]
66 [4, 8, 2]
67
68
69 Best state to expand with g(x): 5 and h(x): 7
70 [1, 7, 3]
71 [0, 5, 6]
72 [4, 8, 2]
73
74
75 Best state to expand with g(x): 6 and h(x): 6
76 [1, 7, 3]
77 [4, 5, 6]
78 [0, 8, 2]
79
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449 [7, 0, 6]
450 [4, 8, 2]
451
452
453 Best state to expand with g(x): 14 and h(x): 2
454 [1, 2, 3]
455 [4, 5, 6]
456 [0, 7, 8]
457
458
459 Best state to expand with g(x): 5 and h(x): 11
460 [1, 3, 6]
461 [5, 8, 7]
462 [4, 0, 2]
463
464
465 Best state to expand with g(x): 15 and h(x): 1
466 [1, 2, 3]
467 [4, 5, 6]
468 [7, 0, 8]
469
470
471 Best state to expand with g(x): 6 and h(x): 10
472 [1, 3, 6]
473 [5, 8, 7]
474 [4, 2, 0]
475
476
477 Best state to expand with g(x): 16 and h(x): 0
478 [1, 2, 3]
479 [4, 5, 6]
480 [7, 8, 0]
481
482
483 Goal state reached!
484 Number of nodes expanded: 76
485 Max queue size: 54
486 Depth of solution is: 16
487 time elapsed: 0.01773381233215332
488
489 Process finished with exit code 0
```