**Eight Puzzle – Run Time Analysis**

**Priority Queue as a Linked List**

Priority Queue is a: **LinkedList:**

**Enqueue is O(n)**

**Dequeue is O(1)**

Machine specifications:

**YOUR ANSWER HERE:**

**Lenovo Laptop**

**2.6 GHz i5 CPU**

**16 GB Memory**

**64bit Windows OS**

Longest Reported Run Time: **0 milliseconds\_\_\_**

Longest Number of Moves: \_\_\_\_\_\_\_\_**3\_\_\_\_\_\_\_\_\_**

Total Run Time for  
all possible States: **0 milliseconds\_\_\_**

**Program output:**

Generating All Possible States...

Done!

Start State:

012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 0, Time Needed: 0 Milliseconds

States solved: 1, Total Running Time: 0 Milliseconds

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Start State:

102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 1, Time Needed: 0 Milliseconds

States solved: 2, Total Running Time: 0 Milliseconds

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Start State:

120

345

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 3, Total Running Time: 0 Milliseconds

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Start State:

123

045

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 4, Total Running Time: 0 Milliseconds

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Start State:

123

405

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 5, Total Running Time: 0 Milliseconds

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Start State:

123

450

678

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142

305

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 6, Total Running Time: 0 Milliseconds

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Start State:

123

456

078

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 7, Total Running Time: 0 Milliseconds

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Start State:

123

456

708

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 8, Total Running Time: 0 Milliseconds

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Start State:

123

456

780

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 9, Total Running Time: 0 Milliseconds

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Start State:

231

456

780

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 10, Total Running Time: 0 Milliseconds

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Start State:

234

516

780

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 11, Total Running Time: 0 Milliseconds

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Start State:

234

567

180

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 12, Total Running Time: 0 Milliseconds

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Start State:

324

567

801

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 13, Total Running Time: 0 Milliseconds

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Start State:

345

267

801

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102

345

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 14, Total Running Time: 0 Milliseconds

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Start State:

345

672

801

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 15, Total Running Time: 0 Milliseconds

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Start State:

345

678

012

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 16, Total Running Time: 0 Milliseconds

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Start State:

453

678

012

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 17, Total Running Time: 0 Milliseconds

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Start State:

456

738

012

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 18, Total Running Time: 0 Milliseconds

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Start State:

456

780

132

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 19, Total Running Time: 0 Milliseconds

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Start State:

546

780

123

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 20, Total Running Time: 0 Milliseconds

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Start State:

567

480

123

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 21, Total Running Time: 0 Milliseconds

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Start State:

567

801

423

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 22, Total Running Time: 0 Milliseconds

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Start State:

567

801

234

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 23, Total Running Time: 0 Milliseconds

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Start State:

675

801

234

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 24, Total Running Time: 0 Milliseconds

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Start State:

678

015

234

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 25, Total Running Time: 0 Milliseconds

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Start State:

678

012

354

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102

345

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 26, Total Running Time: 0 Milliseconds

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Start State:

768

012

345

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 27, Total Running Time: 0 Milliseconds

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Start State:

780

162

345

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 28, Total Running Time: 0 Milliseconds

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Start State:

780

123

645

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 29, Total Running Time: 0 Milliseconds

==================================================

Start State:

780

123

456

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102

345

678

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102

345

678

---

012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 30, Total Running Time: 0 Milliseconds

==================================================

Start State:

801

723

456

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102

345

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 31, Total Running Time: 0 Milliseconds

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Start State:

801

237

456

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 32, Total Running Time: 0 Milliseconds

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Start State:

801

234

576

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 33, Total Running Time: 0 Milliseconds

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Start State:

018

234

567

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 34, Total Running Time: 0 Milliseconds

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Start State:

012

384

567

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 35, Total Running Time: 0 Milliseconds

==================================================

Start State:

012

345

867

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102

345

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 36, Total Running Time: 0 Milliseconds

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Start State:

012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 0, Time Needed: 0 Milliseconds

States solved: 37, Total Running Time: 0 Milliseconds

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Start State:

102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 1, Time Needed: 0 Milliseconds

States solved: 38, Total Running Time: 0 Milliseconds

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Start State:

120

345

678

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 39, Total Running Time: 0 Milliseconds

==================================================

Start State:

123

045

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 40, Total Running Time: 0 Milliseconds

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Start State:

123

405

678

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 41, Total Running Time: 0 Milliseconds

==================================================

Start State:

123

450

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 42, Total Running Time: 0 Milliseconds

==================================================

Start State:

123

456

078

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 43, Total Running Time: 0 Milliseconds

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Start State:

678

015

234

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 44, Total Running Time: 0 Milliseconds

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Start State:

678

012

354

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 45, Total Running Time: 0 Milliseconds

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Start State:

768

012

345

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 46, Total Running Time: 0 Milliseconds

==================================================

Start State:

780

162

345

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 47, Total Running Time: 0 Milliseconds

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Start State:

780

123

645

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 48, Total Running Time: 0 Milliseconds

==================================================

Start State:

780

123

456

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 49, Total Running Time: 0 Milliseconds

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Start State:

801

723

456

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102

345

678

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 3, Time Needed: 0 Milliseconds

States solved: 50, Total Running Time: 0 Milliseconds

==================================================

Start State:

801

237

456

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102

345

678

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012

345

678

==================================================

PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 51, Total Running Time: 0 Milliseconds

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Start State:

801

234

576

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102

345

678

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012

345

678

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PREVIOUS SOLUTION DATA

Number of moves: 2, Time Needed: 0 Milliseconds

States solved: 52, Total Running Time: 0 Milliseconds

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