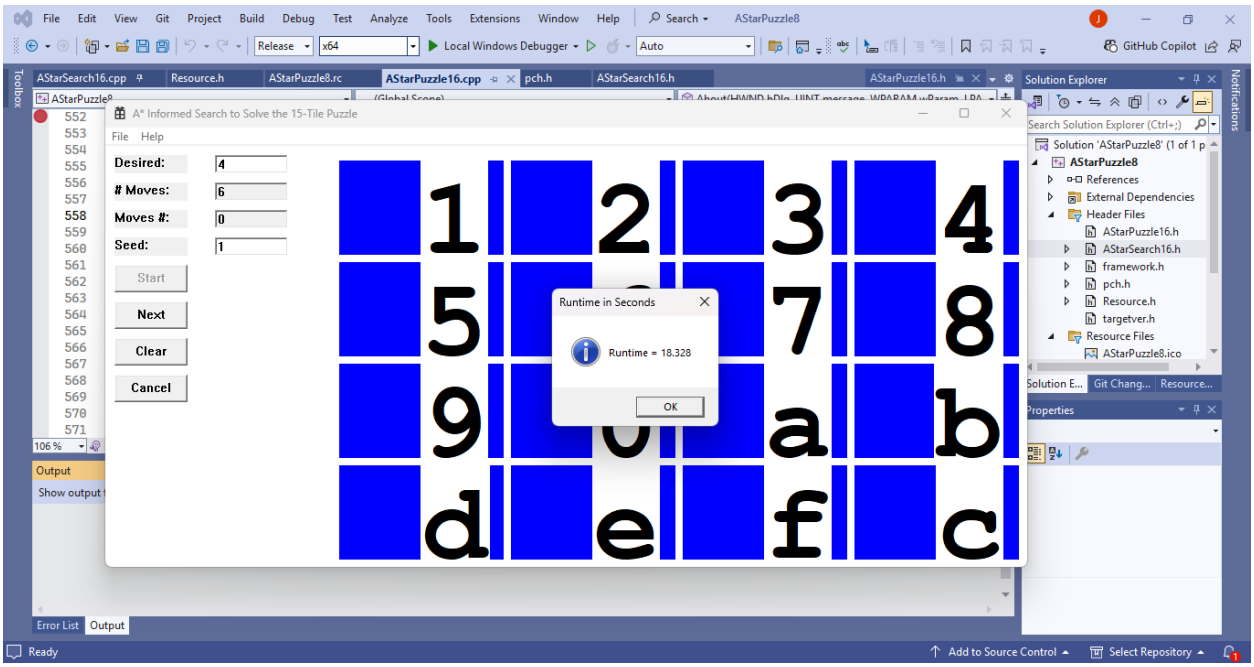
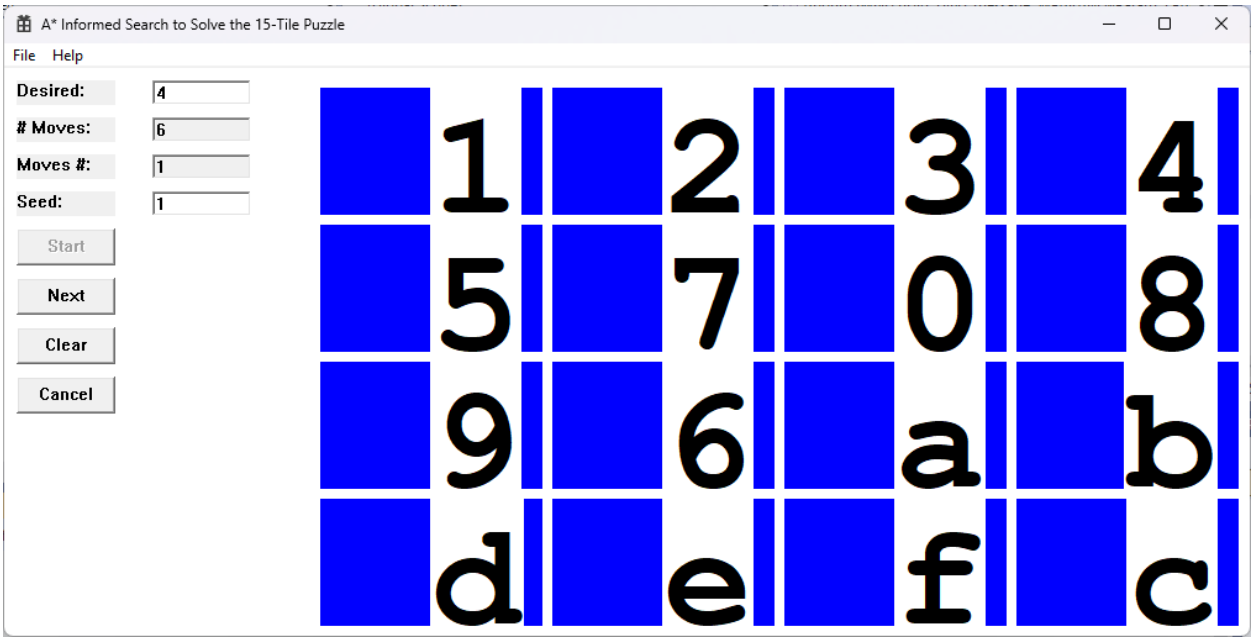
Blog Entry © Monday, November 24, 2025, by James Pate Williams, Jr., A* Informed Search Application to Solve the 15-Tile Puzzle

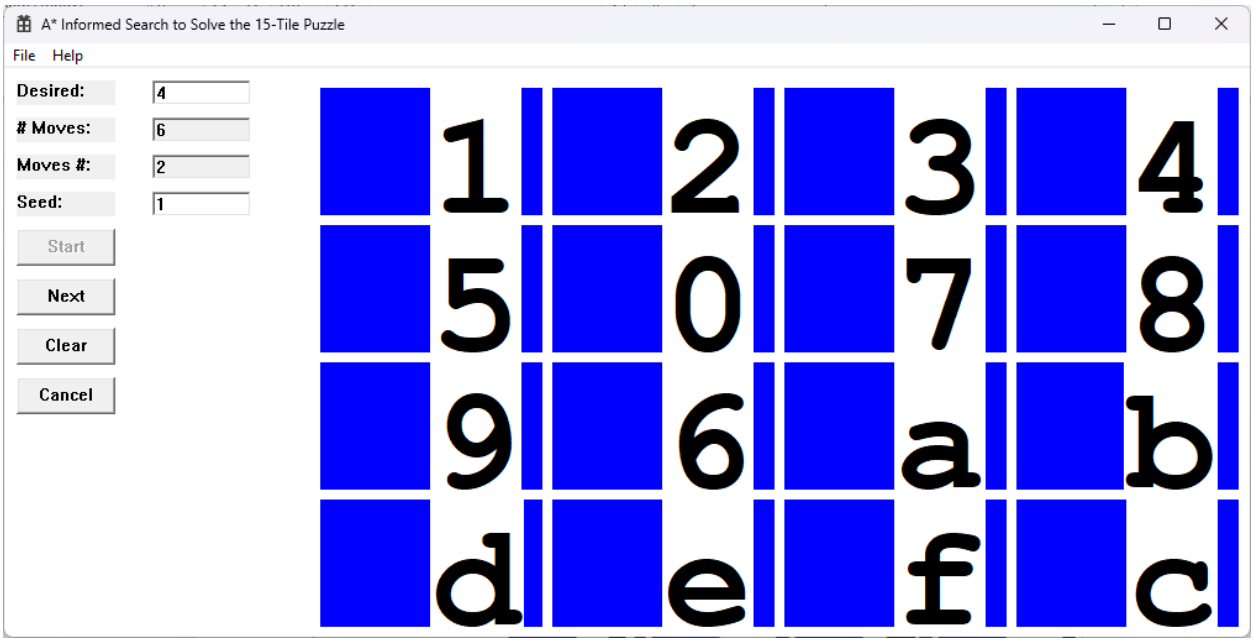
References: ***Artificial Intelligence: A Modern Approach First, Second, and Fourth Editions*** by Stuart Russell and Peter Norvig. The fourth edition is free to be read online or downloaded as a Portable Document File (PDF).

I modified my A* 8-Tile Puzzle solver to solve the 15-Tile Puzzle.

Rebuild started at 3:51 AM...
1>------ Rebuild All started: Project: AStarPuzzle8, Configuration: Release x64 ------
1>pch.cpp
1>AStarPuzzle15.cpp
1>AStarSearch15.cpp
1>Generating code
1>Previous IPDB not found, fall back to full compilation.
1>All 363 functions were compiled because no usable IPDB/IOBJ from previous compilation was found.
1>Finished generating code
1>AStarPuzzle8.vcxproj -> D:\AStarPuzzle8 - Multithreading - Copy\x64\Release\AStarPuzzle8.exe
========== Rebuild All: 1 succeeded, 0 failed, 0 skipped ==========
========== Rebuild completed at 3:51 AM and took 06.966 seconds ==========




A* Informed Search to Solve the 15-Tile Puzzle
File Help
Desired: 4
Moves: 6
Moves #: 1
Seed: 1
Start
Next
Clear
Cancel
1 2 3 4
5 7 0 8
9 6 a b
d e f c


A* Informed Search to Solve the 15-Tile Puzzle
File Help
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Moves: 6
Moves #: 2
Seed: 1
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Clear
Cancel
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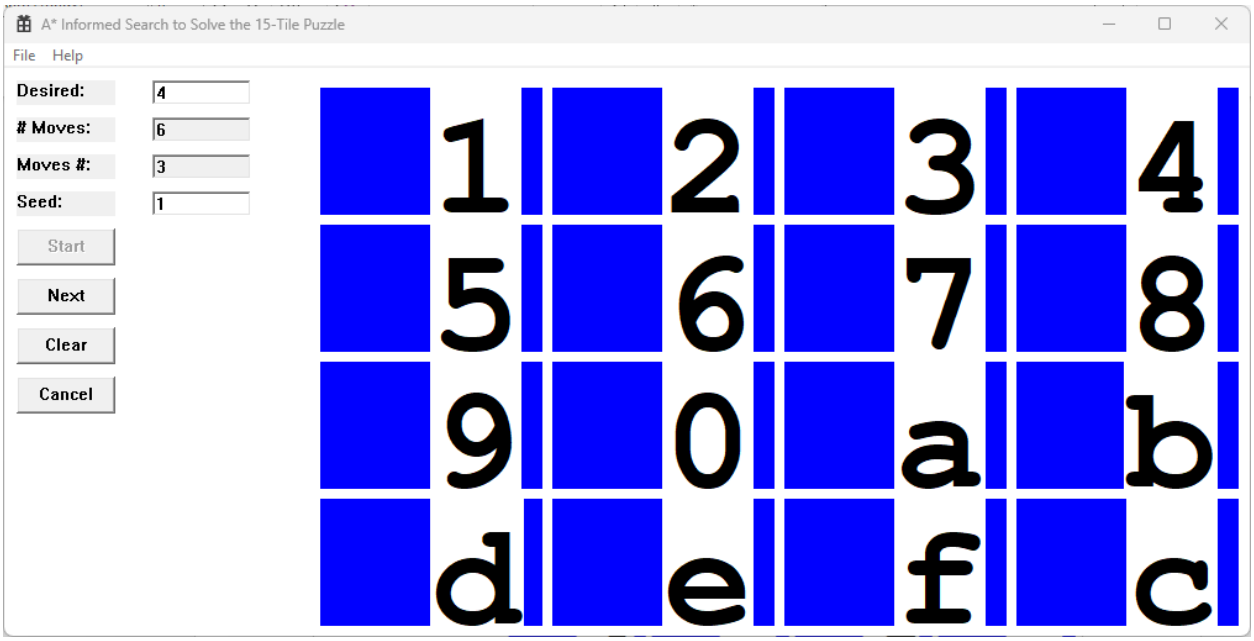
9 6 a b
d e f c


A* Informed Search to Solve the 15-Tile Puzzle
File Help
Desired: 4
Moves: 6
Moves #: 3
Seed: 1
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Clear
Cancel
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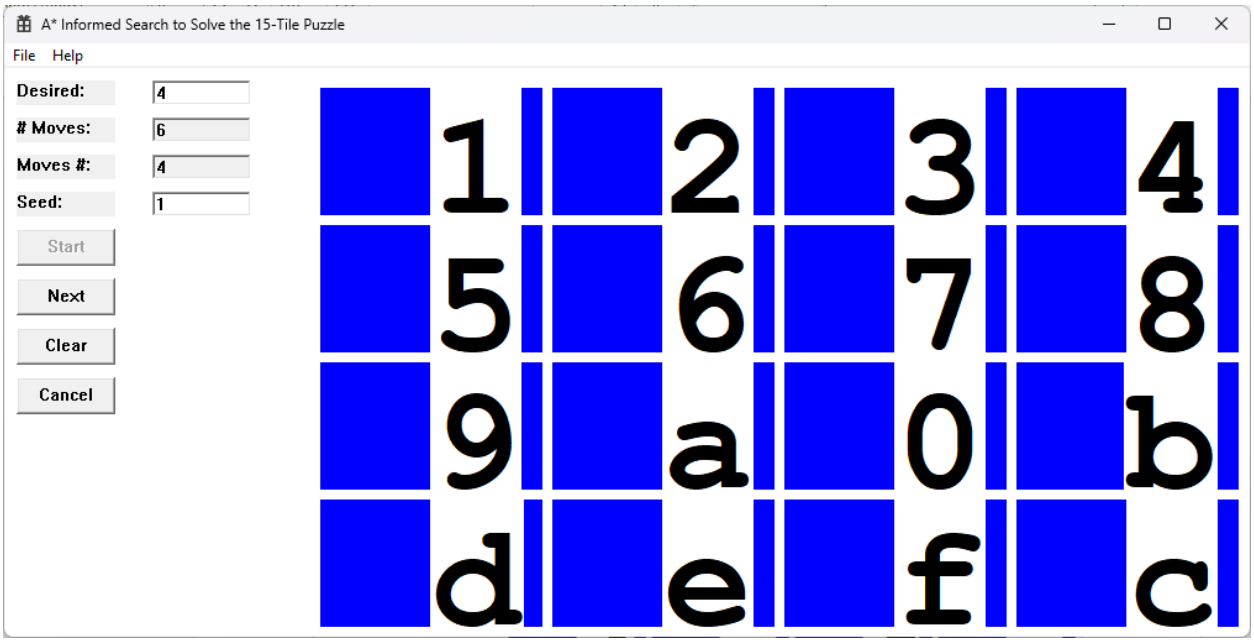
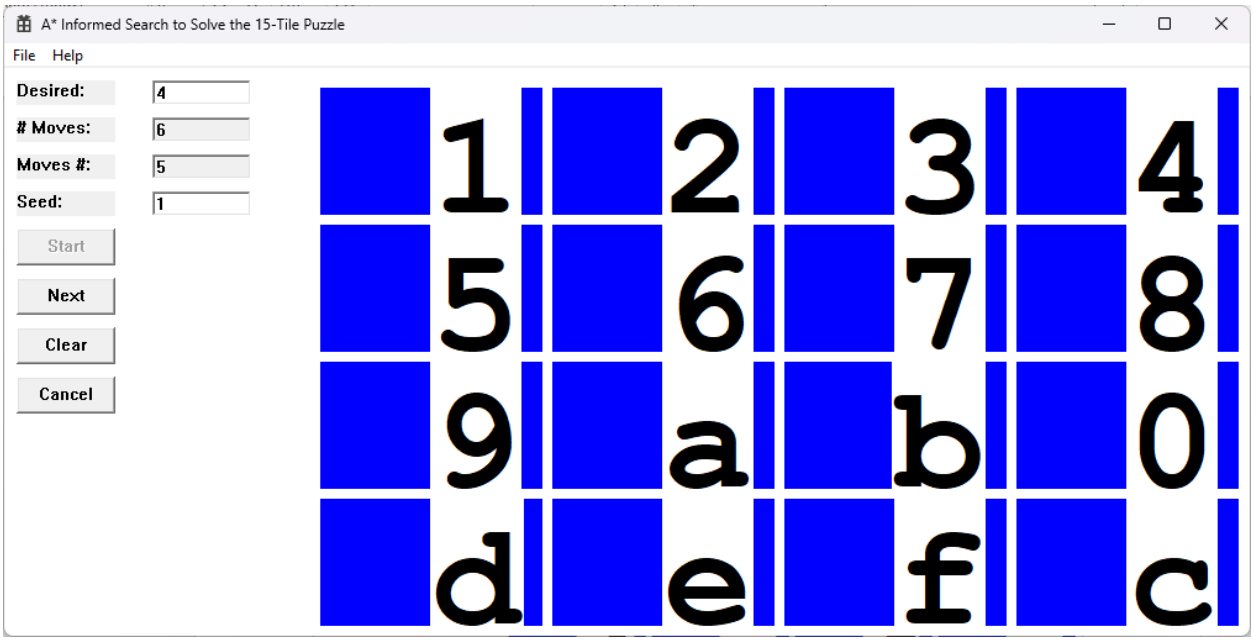
5 6 7 8
9 0 a b
d e f c


A* Informed Search to Solve the 15-Tile Puzzle
File Help
Desired: 4
Moves: 6
Moves #: 4
Seed: 1
Start
Next
Clear
Cancel
1 2 3 4
5 6 7 8
9 a 0 b
d e f c


A* Informed Search to Solve the 15-Tile Puzzle
File Help
Desired: 4
Moves: 6
Moves #: 5
Seed: 1
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Clear
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5 6 7 8
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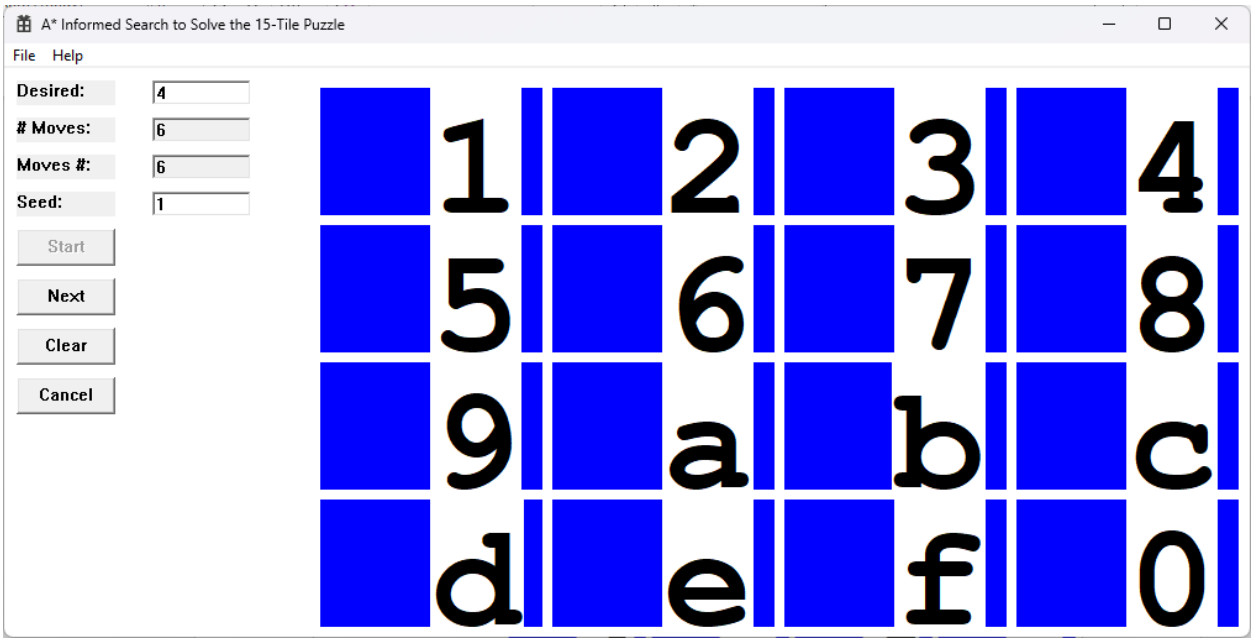
d e f c


A* Informed Search to Solve the 15-Tile Puzzle
File Help
Desired: 4
Moves: 6
Moves #: 6
Seed: 1
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Clear
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5 6 7 8
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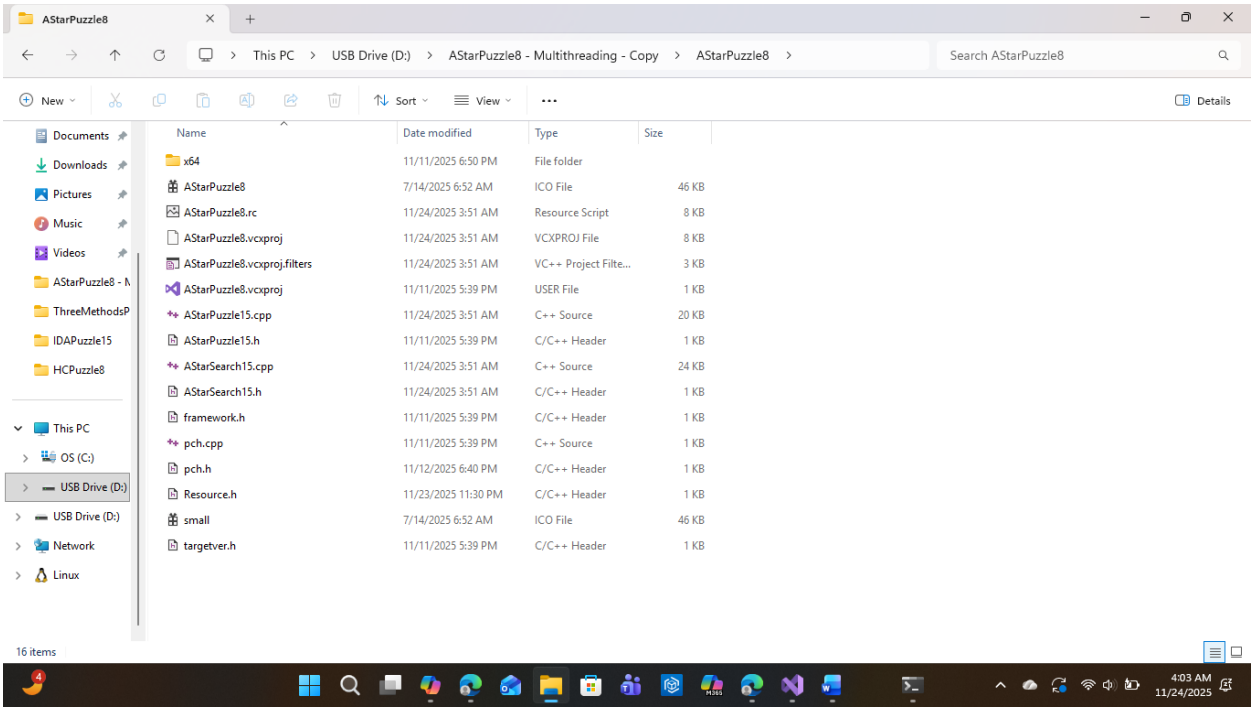
d e f 0


AStarPuzzle8
This PC › USB Drive (D:) › AStarPuzzle8 - Multithreading - Copy › AStarPuzzle8 ›
Search AStarPuzzle8
New
Sort
View
Details
Documents
Downloads
Pictures
Music
Videos
AStarPuzzle8 - M
ThreeMethodsP
IDAPuzzle15
HCPuzzle8
This PC
OS (C:)
USB Drive (D:)
USB Drive (D:)
Network
Linux
Name
Date modified
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Size
x64 11/11/2025 6:50 PM File folder
AStarPuzzle8 7/14/2025 6:52 AM ICO File 46 KB
AStarPuzzle8.rc 11/24/2025 3:51 AM Resource Script 8 KB
AStarPuzzle8.vcxproj 11/24/2025 3:51 AM VCXPROJ File 8 KB
AStarPuzzle8.vcxproj.filters 11/24/2025 3:51 AM VC++ Project Filte... 3 KB
AStarPuzzle8.vcxproj 11/11/2025 5:39 PM USER File 1 KB
AStarPuzzle15.cpp 11/24/2025 3:51 AM C++ Source 20 KB
AStarPuzzle15.h 11/11/2025 5:39 PM C/C++ Header 1 KB
AStarSearch15.cpp 11/24/2025 3:51 AM C++ Source 24 KB
AStarSearch15.h 11/24/2025 3:51 AM C/C++ Header 1 KB
framework.h 11/11/2025 5:39 PM C/C++ Header 1 KB
pch.cpp 11/11/2025 5:39 PM C++ Source 1 KB
pch.h 11/12/2025 6:40 PM C/C++ Header 1 KB
Resource.h 11/23/2025 11:30 PM C/C++ Header 1 KB
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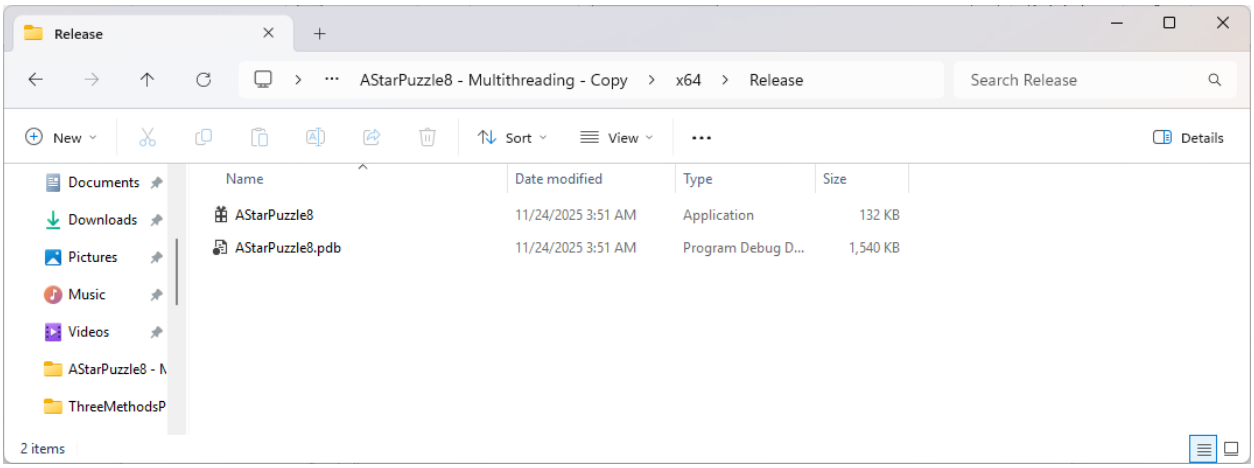
targetver.h 11/11/2025 5:39 PM C/C++ Header 1 KB
16 items
4:03 AM
11/24/2025


Release
AStarPuzzle8 - Multithreading - Copy › x64 › Release
Search Release
New
Sort
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Documents
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Pictures
Music
Videos
AStarPuzzle8 - M
ThreeMethodsP
Name
Date modified
Type
Size
AStarPuzzle8 11/24/2025 3:51 AM Application 132 KB
AStarPuzzle8.pdb 11/24/2025 3:51 AM Program Debug D... 1,540 KB
2 items