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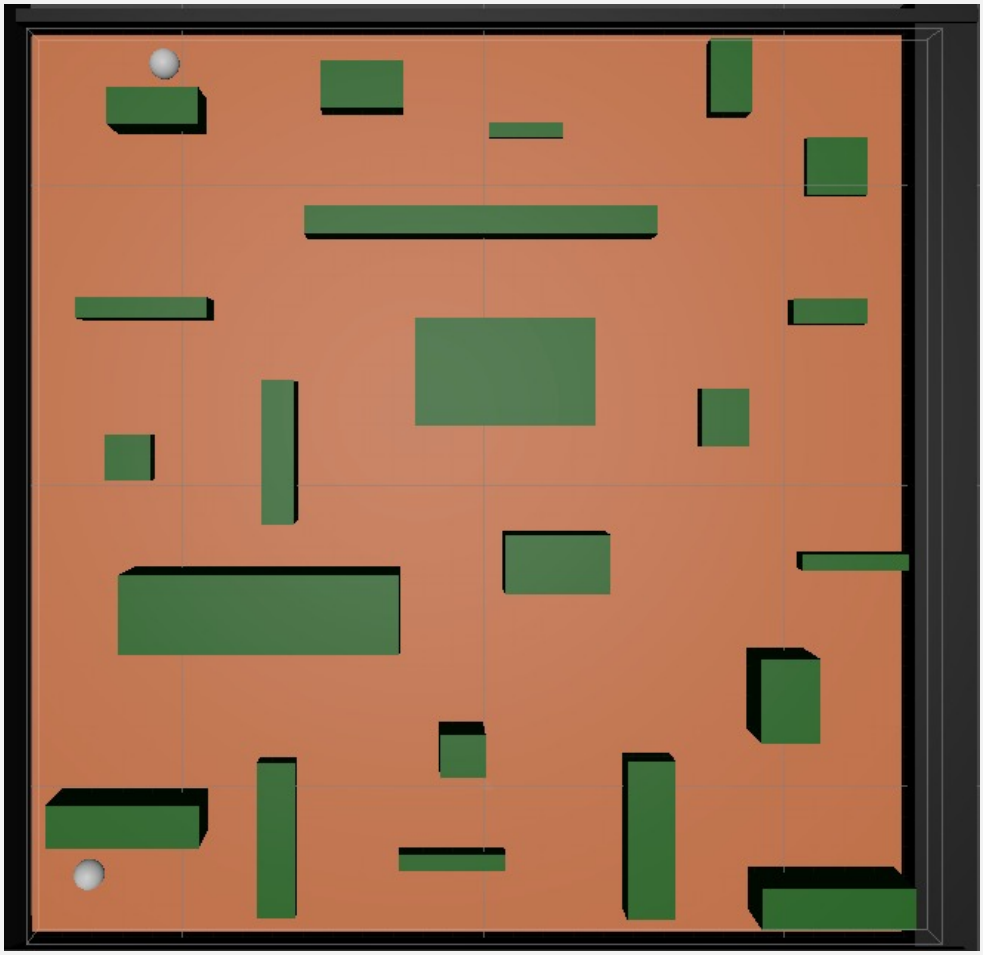
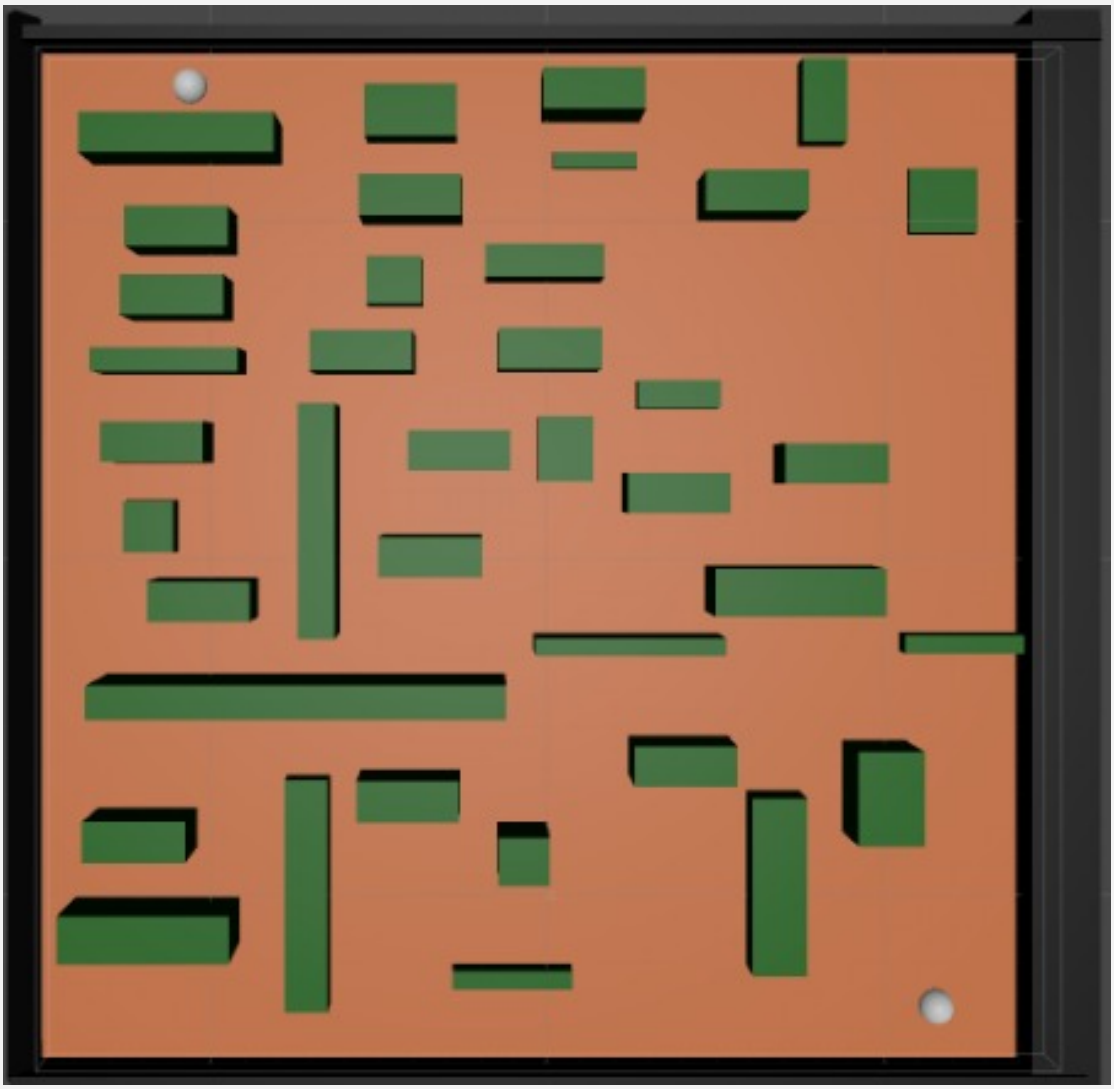
Project 1: PathFinding Maze in Unity (DFS, BFS, UCS, A*)

As it will be seen in the following screenshot, the unity scene below shows one of the many representations chosen to be tested.
Including:

- DFS: Depth First Search
- BFS: Breadth First Search
- UCS: Uniform Cost Search
- A*: Manhattan and Euclidean distance

1. First off, create the scene using cubes as obstacles and spheres as start and end points.

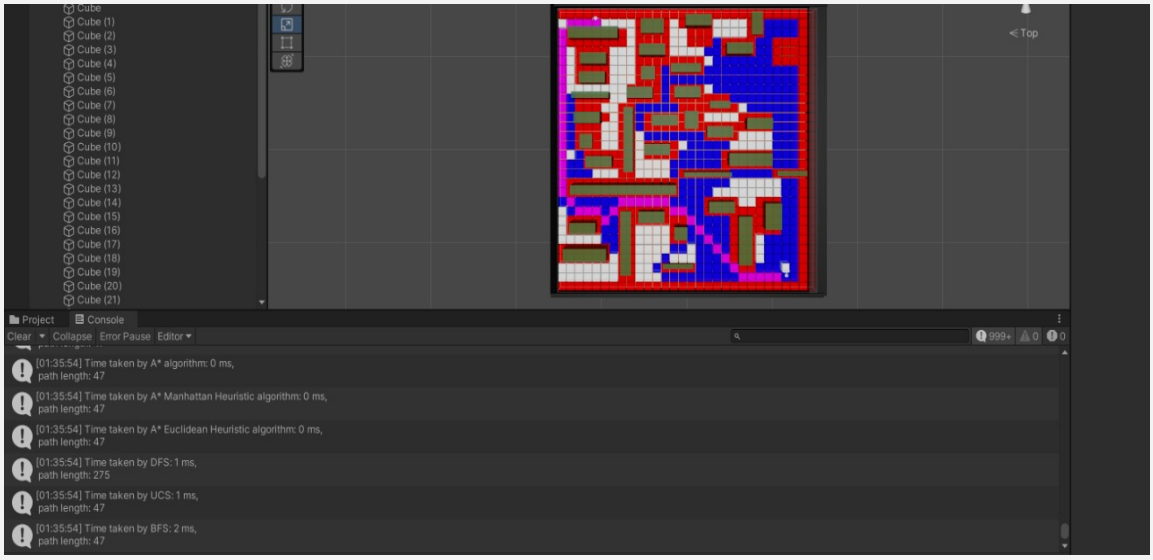




2. As we load up the scene, the code loads and many lines show between the two spheres showing a path among the ones seen at the top of the page

Where the blue path is DFS, the green path is A* Eucledean, the pink path is UCS, Teal: A*(Sebastian's heuristic), Grey: A*(Manhattan distance heuristic)

Notice that some colors may not appear on the following chart examples as there is overlap between paths


Cube
Cube (1)
Cube (2)
Cube (3)
Cube (4)
Cube (5)
Cube (6)
Cube (7)
Cube (8)
Cube (9)
Cube (10)
Cube (11)
Cube (12)
Cube (13)
Cube (14)
Cube (15)
Cube (16)
Cube (17)
Cube (18)
Cube (19)
Cube (20)
Cube (21)
Top
Project
Console
Clear
Collapse
Error Pause
Editor
999+
0
0
[01:35:54] Time taken by A* algorithm: 0 ms,
path length: 47
[01:35:54] Time taken by A* Manhattan Heuristic algorithm: 0 ms,
path length: 47
[01:35:54] Time taken by A* Euclidean Heuristic algorithm: 0 ms,
path length: 47
[01:35:54] Time taken by DFS: 1 ms,
path length: 275
[01:35:54] Time taken by UCS: 1 ms,
path length: 47
[01:35:54] Time taken by BFS: 2 ms,
path length: 47