Project #1

In this project you will be asked to reproduce the pathfinding project and experiment different search and heuristic strategies

For this:

1. Watch the videos E1, E2, and E3 of Sebastian Lague on Youtube
   https://www.youtube.com/watch?v=-L-WgKMFuhE&list=PLFt_AvWsXl0cq5Umv3pMC9SPnKjfp9eGW
2. Learn how to use Unity 2d. Please use the latest version
3. Get the code from Github https://github.com/SebLague/Pathfinding
4. Build your own environment using Unity using your own obstacles. The environment/grid should be very large so as to amplify the differences between the different search strategies you will use.
5. Run the simulations for different search strategies (DFS, BFS, UCS – assume same cost in all directions- and A* with different heuristics,
6. Make sure to draw the different paths found by each strategy simultaneously with different colours so that we can compare solutions,
7. For each strategy output the expanded nodes, fringe, time etc.

Deliverables

Post your project on Github (make sure to credit and reference Sebastian Lague) with a pdf report describing the environment and showing snapshots of your various experiments . The report must show the **name of the teammate.**

Submit only the link to Github on Canvas.

Grading rubric

-Working code with report 70%

-Size of the environment 10%; Complexity of the environment 10%

-Comparison of strategies 10%

- Showing a little character taking the most efficient path 5% after drawing the paths corresponding to the various strategies.