Path Finding Exercise

Use this link to find some demonstrations of pathfinding algorithms in action:

https://qiao.github.io/PathFinding.js/visual/

Note this is this example the world is a grid – rather than a graph as studied in the book.

You can add obstacles (gray squares) by clicking them.

When the search progresses evaluated tiles are coloured are in light blue and tiles in the frontier/fringe/open-list are in light green.

On the right hand side you can choose an algorithm and some details about that algorithm.

You should try out the various algorithms and see how they work and how they cope with different arrangements of obstacles.

Think about the differences between the behaviour of the different algorithms in different situations. Try to work out which features of the environment cause the biggest discrepancies in the number of evaluations and time required to reach the goal.

Note that what is shown here as “Dijkstra’s algorithm” is expressing the behaviour of the very similar Uniform Cost Algorithm (the demonstration doesn’t show the subtle differences between the two).