Given a start and end location for a point robot in a grid (workspace divided into cells) find a path that connects the start to the goal based on some optimization of a metric.

6.8 a1	5.8 a2	4.8 a3	3.8 a4	3.4 a5	3 a6	a7 3.4.
6.4 b1	5.4 b2	4.4 b3	3.4 b4	2.4 b5	2 b6	b7 2.4.
6.8 c1	5.8 c2	c3	c4	c5	1 c6	c7 1.4
7.2 d1	6.8 d2	7.2 d3 G	d4	d5	d6 S	d7 1
6.8 e1	5.8 e2	e3	e4	e5	1 e6	e7 1.4.
6.4 f1	5.4 f2	4.4. f3	3.4 f4	2.4. f5	2 f6	f7 2.4.

→ Initialize all cells to very high cost

→ Obstacle cells to ∞ or something higher than the cell costs

→ Make cost of S ← 0 (d6=0).

→ Find cost (Nbhrs(S)) → c6 = 1, e6 = d7 = 1. c7 = e7 = 1.4

→ Choose the Nbhr with the least cost from d6. (S).← c6

→ Expand from c6 or find cost of (Nbhrs(c6)) from S

↳ b6 = 2, b7 = 2.4.

→ Choose the node amongst all expanded / opened nodes, the one with the minimum cost from S, which is e6

→ Expand(e6) → f6, f7, f5

→ Cost(Nbhrs(e6)) → f6 = 2, f7 = 2.4, f5 = 2.4

→. Choose node with the least cost → d7

→ Expand(d7) → No nodes to expand @ d7

→ Continue to expand till the goal node is reached or all nodes in the cell are expanded (Either of the two ways is fine)

→ Find path from G → S by the method of steepest descent.

QUESTIONS:

→ Does the algorithm halt (Find a path if one exists)?

→ Is the path optimal in an eight connected sense from the S?

LIMITATIONS:

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