

Dijkstra's Algorithm

Recall: shortest paths from one node to all nodes in a graph

variants: one node to one node
all nodes to all nodes

UCS is analogous, uses $f(n) = g(n)$ ($h(n) = 0$)

Dijkstra's Alg: • no heuristics
• geared to finite, explicit graph

for consistent heuristics $h(n)$:

$$h(n) \leq c(n, n') + h(n')$$

$$\Rightarrow 0 \leq \underbrace{c(n, n') + h(n') - h(n)}_{= d(n, n')}$$

A* resembles Dijkstra's Alg.

For $h(n) = h(n') = 0$, "classical"