OCR Computer Science A Level
2.3.1 Path Finding Algorithms

Flashcards

What is Dijkstra's algorithm?

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A shortest path algorithm used to find the shortest distance between two nodes in a network.

How is Dijkstra's algorithm implemented?

You use a priority queue which has the shortest lengths at the front of the queue.

What is the A* algorithm?

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The A* algorithm is a general path-finding algorithm which has two cost functions: actual cost and an approximate cost.

How does the A* algorithm differ from Dijkstra's algorithm?

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A* algorithm has two cost functions: the actual cost and the approximate cost

Why are heuristics used in the A* algorithm?

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To calculate an approximate cost from node x to the final node. This aims to make the shortest path finding process more efficient.

What data structure can be used to implement Dijkstra's algorithm?

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Priority queue

State a disadvantage of using the A* algorithm

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The speed of the algorithm is constrained by the accuracy of the heuristic