# Dijkstra’s shortest path

* Solves the single-source shortest-path problem assuming edge weights are nonnegative
* Hence, no negative cycles
* It generalises BFS over weighted graphs

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A picture containing photo, air, jet, boat

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The algorithm coloring works that same as BFS

It is important to note that it always visits the vertex with the smallest distance from S. That’s why it visits vertex *t* in image *d* and not vertex *x*.

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## Runtime

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