Greedy Algorithm vs. Dijkstra Algorithm

step 1: start → A (fuel = 5)

step 2: A → Gas 1 → (Refuel to 15) → C (fuel = 5)

step 3: C → Gas 1 (Refuel 15) → Destination (fuel = 7)

Dijkstra

step 1: start → A (cost = 5)

A → Gas1 (cost = 8)

Gas1 → C (cost = 10)

C → Destination (cost = 18) * more fuel than greedy implementation

Greedy Algorithm

↳ chooses nearest gas station at each step (node)

↳ Local optimization

* Does not guarantee most efficient route here, selecting unnecessary fuel consumption

Dijkstra Algorithm:

↳ Evaluates all possible paths selecting min. cost

↳ utilizes priority queue (node w/ smallest minimum distance)