Solution to exercise

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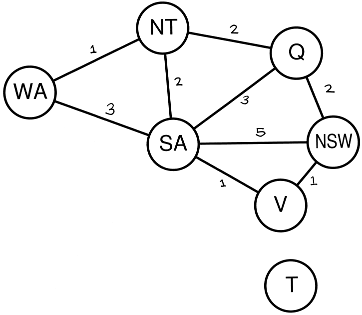
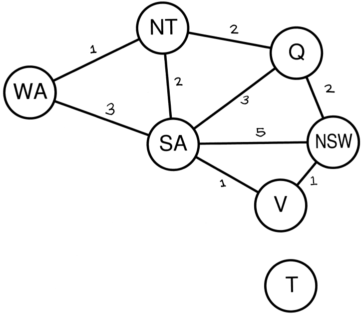
Min-cost



Min-cost $\neq$ breadth-first



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$\sum_{i=1}^{k-1} \text{cost}(n_i, n_{i+1})$

$\text{cost}(\texttt{wa nt q nsw}) = 5$
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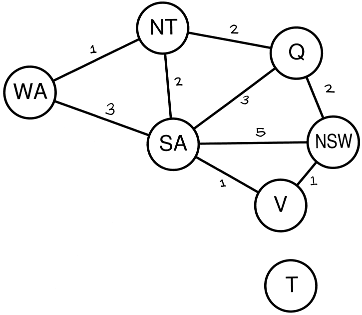

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$\text{cost}(\texttt{Start}\cdots\texttt{Head}) \leq \text{cost}(\texttt{Start}\cdots n)$ for each n in `Tail` ?

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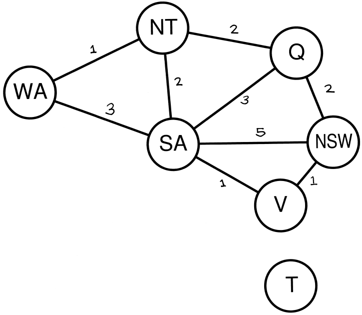

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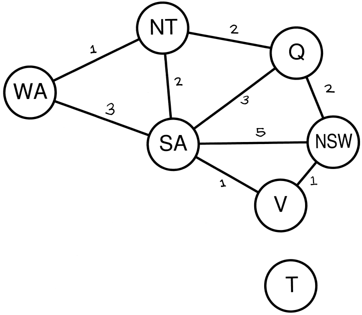

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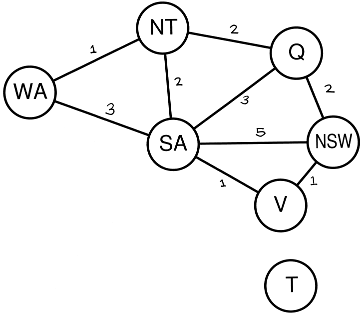

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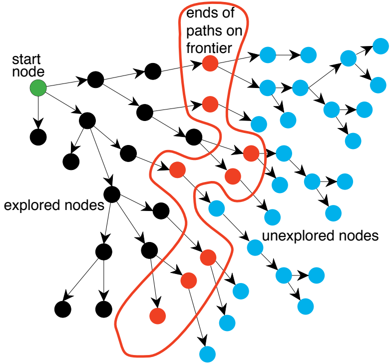
- node $\rightsquigarrow$ path or pair $(n, \text{cost}(\texttt{Start} \cdots n))$
- what about proximity to goal?

$$h(n) = \text{estimate of min cost path } n \cdots \text{goal}$$

A*



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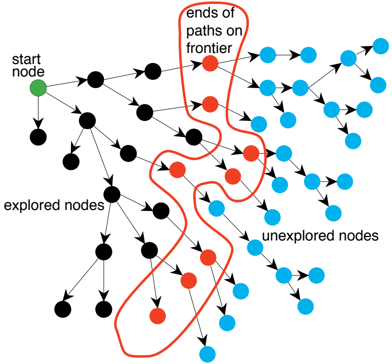

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Ensure `Frontier = [Head|Tail]` where `Head` has minimal f

- $h(n) = 0$ for every n $\rightsquigarrow$ min-cost
- $\text{cost}(\text{start}\cdots n) = 0$ for every n $\rightsquigarrow$ best-first (disregarding the past)

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(i) for every $n \geq 0$ s.t. $c_n < c$, F_n has a prefix of p

(ii) $c = c_n$ for some n s.t. the head of F_n is a solution.