Heuristic functions

- Admissible heuristic function $0 \leq h(x) \leq h^*(x)$

    - Why?

    - What if $h(x) = 0$?

    - What if $h(x) = h^*(x)$?

- How to verify admissible heuristic function?

    - Consistent heuristic functions: $h(n) \leq c(n, a, n') + h(n')$ -> f is increasing

    - Consistent functions are admissible!

Sample complexity

- $f = g + h$ contours

- Complete if $n : f(n) \leq f(G) = f^*(G)$ finite

- Space complexity $|\{n : f(n) \leq f(G) = f^*(G)\}|$

- Time complexity: $f(S)$ increase to $f(G) = f^*(S)$

- $\tilde{\mathcal{O}}\left(b^{(f^*(S)-f(S))/\varepsilon}\right)$, (not covered, skip if you want)

  - ε: minimal difference between successive f