

Jan 31: Agenda

- Recap: Implicit graphs, only local knowledge; DFS, BFS, UCS algorithms unified via the function $f(\cdot)$.
- General Search Questions:
 - ▶ What is the difference between a **state** and a **node**?
 - ▶ What is the trade-off between DFS and BFS?
 - ▶ Compare Fig. 3.7 (pg. 91) vs Fig. 3.9 (pg. 95)
 - ▶ What are the optimizations in the latter?
 - ▶ If the “greatest common divisor” of all edge costs exists and is known. How could we use BFS to obtain optimal costs?
- Informed Search:
 - ▶ What is $h(\cdot)$? In what two ways does it differ from $g(\cdot)$?
 - ▶ What is: an **admissible** heuristic? a **consistent** heuristic?
 - ▶ The effect of $f(n) = g(n) + h(n)$? Contours!
 - ▶ Can we give a best possible (admissible) heuristic?
How about a worst possible (admissible) heuristic?