CSCI 3202

Lecture 5

September 3, 2025

Wumo. http://wumo.com/

Announcements

- Homework 2 released today
  - Due in 1 week on Wed, Sept 10 by 11:59 pm
  - Covers BFS, DFS, path

Quiz 1

- Average was 88%
- Quiz 2 is Friday in class
- Review results

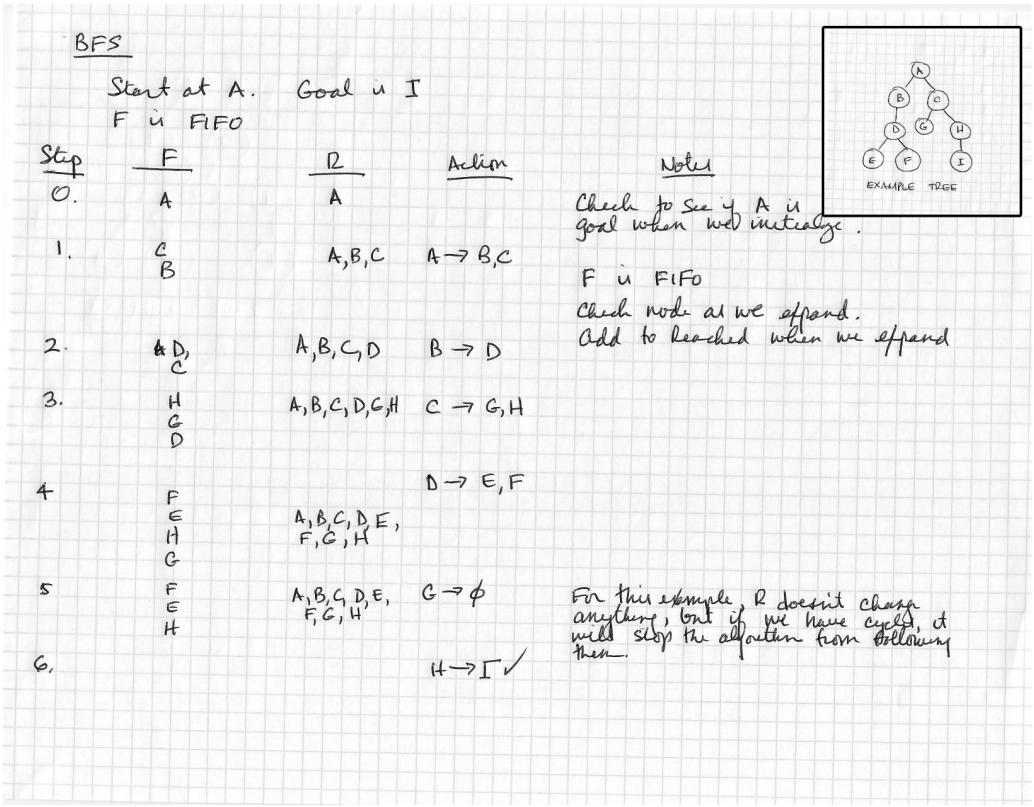
Readings

- AIMA sections 3.4-3.6 for today
- Subjects: UCS, Greedy

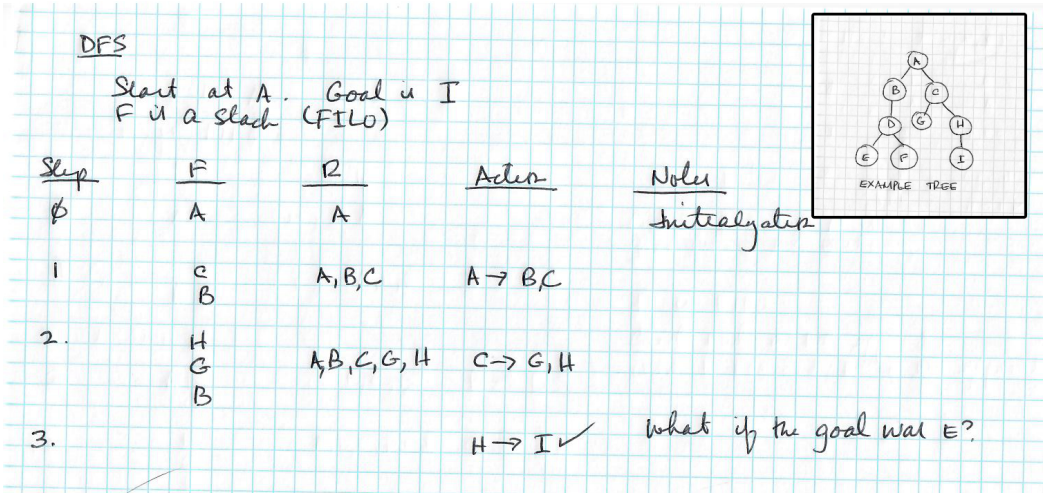
Lecture

- Posted an annotated version of my slides with the solutions on them in Canvas
  - Lecture 3 Slides Annotated.pdf
- Review BFS, DFS

BFS Example



DFS Example



- UCS Search
- Greedy Search
  - Defines a heuristic function

    - Heuristic is distance from a node to the goal (straight line)
- UCS Greedy and AStar Slides.pdf

Path

- For a GPS system, the path is the important item most people want. How do you construct the path?
- Start at the end and work backwards
    - Start at destination
    - Find the most recent node that explored the destination
    - Mark this node as being on path
    - Repeat with this node as destination
    - Done when you reach the starting node
- Often implemented as a Python dictionary
    - Each node is a key
    - Value is node that visited or explored it
    - If there are multiple explorations, dictionary only keeps most recent one

Next Class

- A*
- Heuristics