# CSCI 3202 Lecture 5

#### September 3, 2025



Wumo. <a href="http://wumo.com/">http://wumo.com/</a>

#### **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

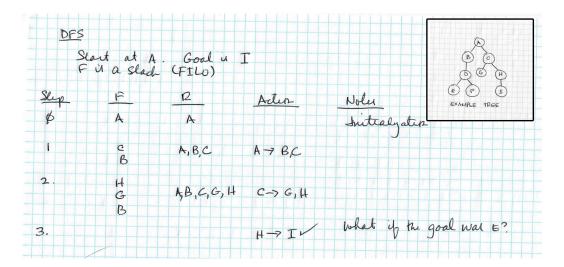
### Lecture

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

### **BFS Example**

		. Goal u	Γ	(B) (C)
	F u FIFO			000
Stip O.	<u>F</u> .	12	Action	Notes E
0.	Ą	A		Check to See y A is good when we meterally.
1,	В	A,B,C	4-7 B,C	F ù FiFo
2.	<b>&amp;</b> D,	A,B,C,D	B → D	Chich wode at we appared. add to beached when we appared
3.	H	A, B, C, D, G, H	C -7 G, H	
4			D-7 €, F	
	F E H G	4, B, C, D, E, F, G, H		
2	F E H	A, B, G, D, E, F, C, H	G → Ø	For this example, R doesn't change anything, but if me have cycle, it will stop the abouton from bollowing them.
e,			4-71/	Then.

# **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