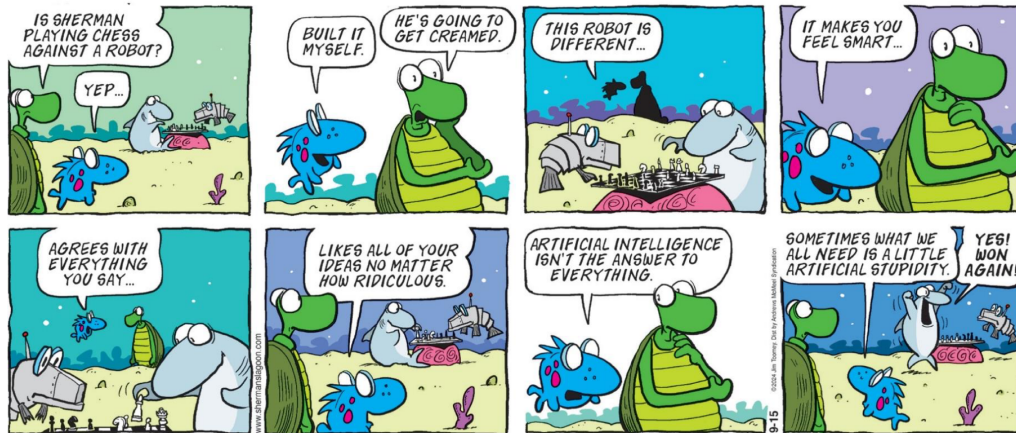


CSCI 3202

Lecture 4

August 29, 2025

SHERMAN'S LAGOON: By Jim Toomey



Sherman's Lagoon by Jim Toomey: <http://www.shermanslagoon.com/>

Announcements

- HW 1 Due Wed, Sept 3 at 11:59 pm
- First quiz today

Quizzes

- In class only
- 12 quizzes during semester
- Drop your 2 lowest quizzes
- 2-4 multiple choice questions in general
- Covers lectures from last week or two
- 5 minutes to complete
- Begins at 2:10
- In Canvas
- Requires an access code given in class
- Leave after you complete the quiz
- 12 quizzes during semester

Readings

- AIMA sections 3.4-3.6 for today, next week
- Subjects UCS, A*, Greedy Search

Lecture

- BFS
 - Visits all nodes beginning at source
 - Visits closest in nodes first then moves 1 "row" further out
 - Why is BFS Complete?
 - Why is BFS Optimal?

BFS

Start at A. Goal is I
F is FIFO

Step	F	R	Action	Notes
0.	A	A		Check to see if A is goal when we initialize.
1.	C B	A, B, C	A → B, C	F is FIFO Check node as we append. Add to reached when we append
2.	D C	A, B, C, D	B → D	
3.	H G D	A, B, C, D, G, H	C → G, H	
4.	F E H G	A, B, C, D, E, F, G, H	D → E, F	
5.	F E H	A, B, C, D, E, F, G, H	G → ∅	
6.			H → I ✓	For this example, R doesn't check anything, but if we have cycles, it will stop the algorithm from following them.

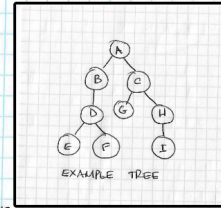
EXAMPLE TREE

- Lecture 3 Slides

DFS

Start at A. Goal is I
F is a stack (FILO)

Step	F	R	Action	Notes
0	A	A		Initialization
1	C B	A, B, C	$A \rightarrow B, C$	
2	H G B	A, B, C, G, H	$C \rightarrow G, H$	
3			$H \rightarrow I$ ✓	What if the goal was E?



Next Week

- Review quiz
- UCS, A* Search
- HW 2 Released on Wed, Sep 6