CSE 12 — Basic Data Structures and Object-Oriented Design Lecture 8

Greg Miranda, Spring 2021

Announcements

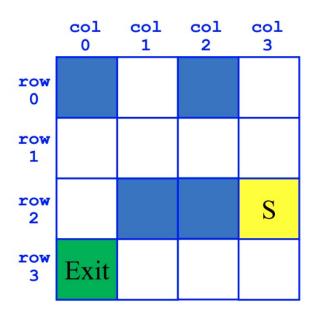
- Quiz 8 due Friday @ 12pm
- PA2 due tonight @ 11:59pm clased PA
- Survey 3 due Friday @ 11:59pm
- Exam 1 week from Friday (Week 4)
 - Released @ 2pm on Friday
 - Closes @ 6pm on Saturday
 - More details to be released on Piazza soon
 - Lectures 1 8
 - Up to and including PA3



Topics

- Questions on Lecture 8?
- BFS/DFS

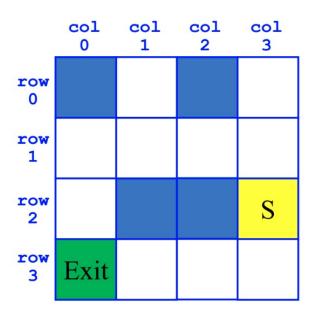
Breadth-First Search (BFS)



SearchForTheExit

Initialize a Queue to hold Squares as we search
Mark starting square as visited
Enqueue starting square on Queue
While Queue is not empty
Dequeue square sq from Queue
Mark sq as visited
If sq is the Exit, we're done!
For each of square's unvisited neighbors (S, W, N, E):
Set neighbor's previous to sq
Enqueue neighbor to Queue

Depth-First Search (DFS)



SearchForTheExit

Initialize a **Stack** to hold Squares as we search Mark starting square as visited **Push** starting square on **Stack**While **Stack** is not empty **Pop** square sq from **Stack**Mark sq as visited
If sq is the Exit, we're done!

For each of square's unvisited neighbors (S, W, N, E):
Set neighbor's previous to sq **Push** neighbor to **Stack**