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

Greg Miranda & Paul Cao, Winter 2021

Announcements

- Quiz 8 due Monday @ 8am
- Survey 3 due tonight @ 11:59pm
- PA3 due Wednesday @ 11:59pm
- Exam 1 next Friday
 - Released @ 8am on Friday
 - Closes @ 10am on Saturday
 - More details to be released on Piazza soon

60 minute

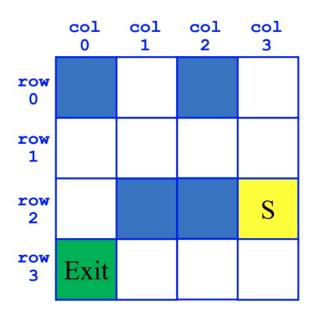
6 Lectures 1-8

Topics

- Questions on Lecture 8?
- BFS/DFS

Questions on Lecture 8?

Breadth-First Search (BFS)

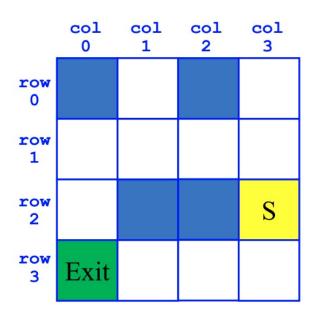


SearchForTheExit

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