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

Greg Miranda & Paul Cao, Winter 2021

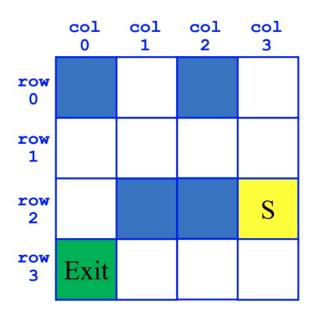This lecture is being recorded

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

Topics

- Questions on Lecture 8?
- BFS/DFS

Questions on Lecture 8?
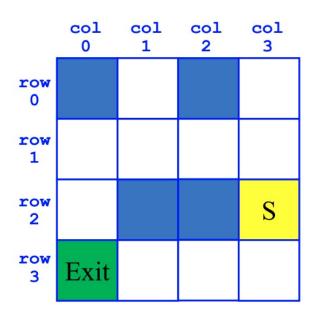
Breadth-First Search (BFS)

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**