

CSE 12 – Basic Data Structures and Object-Oriented Design

Lecture 8

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Announcements

- Quiz 8 due Friday @ 12pm
- PA2 due tonight @ 11:59pm — *closed 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

→ 90 minutes

Topics

- Questions on Lecture 8?
- BFS/DFS

Breadth-First Search (BFS)

	col 0	col 1	col 2	col 3
row 0				
row 1				
row 2				S
row 3	Exit			

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)

	col 0	col 1	col 2	col 3
row 0				
row 1				
row 2				S
row 3	Exit			

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**