

# **CSC 212**

# **PROGRAMMING WITH**

# **DATA STRUCTURES**

**SPRING 2016**

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**SMITH COLLEGE**

# **CLASS 8: FEB 18**

## **OUTLINE**

- **Debrief Homework 2**
  - demo
- **Recap linked lists (theory and code)**
- **Using linked lists: sorting**
  - Insertion sort
  - Bubble sort
- **Runtime analysis**
- **Preview Lab 4 and Homework 4**

# **DEBRIEF HOMEWORK 2**

# WHAT SHOULD BE A FIELD?

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private int height;  
private int width;  
private Color mapArray[];  
private Color color;
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over half had fields  
that looked something  
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    for(int i = x; i < x+w; i++) {  
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        }  
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# **HOMEWORK 2/3**

**Demo!**

# **RECAP LINKED LISTS**

# **USING LISTS: SORTING**

# **SORTING**

- **Data structure: linked lists**
  - Implement in Lab 4
- **Programming with data structure: sorting**
  - Implement in Homework 4 and 5
- **Very fundamental application**
  - Sorting algorithms illustrate fundamentals of data structure methods and runtime analysis
  - Sorted lists make it easier to search
  - Sorting can assist in list processing applications and data visualization

# **PREVIEW LAB 4 AND HW 4**

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- **Pair programming (can begin during Lab 4)**
- **No graphics and no “import” statements (all from scratch)**
- **Very fundamental topic that all CS students should know how to do**
- **Useful for coding interviews!**