CS 113 – Computer Science I

Lecture 17 – Sorting

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Announcements

• Assignment 08
  • Due tonight Thursday 11/10
Demo - Swapping values

• Swap.java
Bubble Sort

Idea: bubble highest values to the end of the list; Check a shorter sublist each time

bubbleSort(L):

    for len in range(len(L), 1, -1):
        for j in range(1, len): # bubble
            if L[j-1] > L[j]:
                swap(j-1, j, L)
Selection sort

Repeatedly find the smallest item and put it at front of list

selectionSort(L):
    for startIdx in range(len(L)):
        minIdx = findMinimum(startIdx, L)
        swap(startIdx, minIdx, L)
Sorting demos - Bank

- Create a Customer class that stores a name (String) and balance (double)
- Create an array of Customers from a CSV (comma separate value) file
  - Each line represents a customer
  - Split each line based on a delimiter character (comma in this case)
- Sort customers based on name
- Sort customers based on balance