



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