Announcements

18 November 2015
Lecture #10 - Plan for Today

1st hour

- Finish unittest worksheet from last week
- Talk about if __name__ == "__main__": => (Update: we’ll do that next week)

2nd hour

- Runtime complexity of functions (do worksheet)
- Demo of Sorting algorithms!
- Sorting Algorithms worksheet

3rd hour

- Insertion Sort Analysis (do worksheet)

=> Update: I’ve posted a detailed walk-through example for insertion sort analysis. Please go over it and bring this worksheet to class next week too.
Assignment 3

Please get started early on Assignment 3:

http://www.cdf.toronto.edu/~csc108h/fall/assignments/a3/handout.shtml

It is due Tuesday, December 8th, before 10:00pm

It is worth 8% of your total mark.
• In Bubble Sort the sorted region is in the end of the list.

• During each pass we “bubble” through the unsorted section to move the largest number to position with index end.

• So after the 1st pass, the largest number will have been moved to the end of the list
Selection Sort

- In Selection Sort the sorted region is in the beginning of the list.
- In every pass we find the index of the smallest item in $L[i:]$ and swap that item with the item at index $i$.
- After the 1st pass, the smallest item of the list will have been moved to position w/ index 0.
• In Insertion Sort the sorted region is in the beginning of the list.

• In every pass we move (insert) the element at position i to where it belongs in L[:i + 1].

• Unlike Selection Sort, in Insertion Sort the sorted region might change in every pass. So after some passes, the element at position 0 is the smallest element in the sorted part of the list, but might not be the smallest element in the entire list.