

MA/CSSE 473 Day 11 Announcements and Summary

Announcements:

1. HW 5 due tonight. HW6 Thursday
2. Exam dates: Tuesday Sept 30, Tuesday November 4. In-class. Still not in the schedule page (soon!).
 - If you are allowed extra time for the exam and plan to use that time, please talk with me soon about timing.
3. In my office today hours 6, 8, 9, and the first half of 10.
4. Monday we will discuss the Donald Knuth interview, linked from in the Day 3 and Day 11.

Main ideas from today:

1. Donald Knuth is a VIP in the world of algorithms. Let's talk about him.
 1. What does *amortize* mean?
 2. Suppose we are implementing ArrayList, starting with an capacity of 12 elements, and increasing the size as needed. If we start with an empty ArrayList and add N elements, one at a time (we don't know N in advance), what is the amortized cost of adding each element if we use the following strategies for resizing the array?
 - add one element to the capacity each time
 - double the capacity each time (you may assume that N is one more than 12 times a power of 2)
3. What is a brute force algorithm?
4. According to the Levitin textbook, what are the three flavors of decrease-and-conquer algorithms?