

Lecture 30

CSE 331

Nov 7, 2014

HW 7 due today

Place Q1, Q2 and Q3 in separate piles

I will not accept HWs after 1:15pm

DO NOT FORGET TO WRITE DOWN YOUR SOURCES

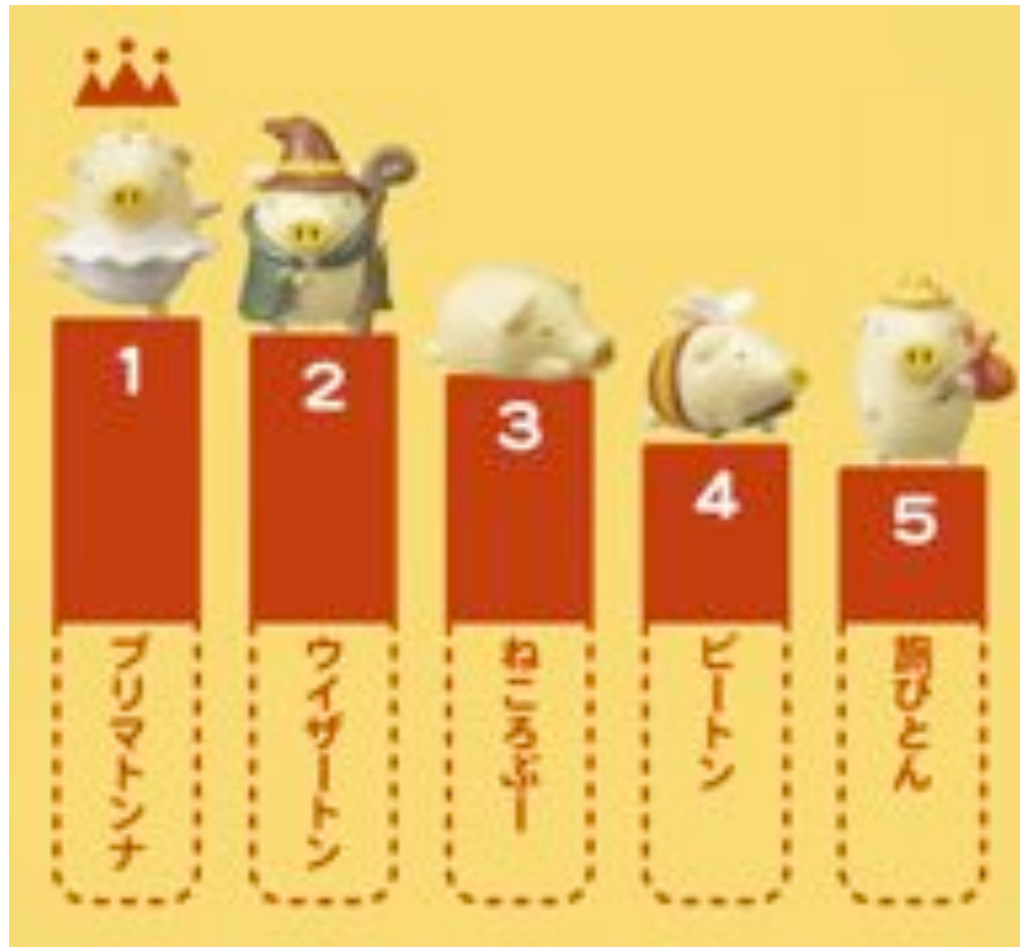
Related HW stuff

HW 8 has been posted on piazza (No collaboration on Q 2a)

Solutions to HW 7 at the END of the lecture

Can pick up graded HW 6 from Monday

Rankings



How close are two rankings?

Google [Advanced Search](#)

Web [Show options...](#) Results 1 - 10 of about 23,700,000 for **compare rankings**. (0.30 seconds)

Comparison Reviews Sponsored Link
[Angieslist.com](#) Your neighbors' ratings on local service companies. Award-winning.

Ranking - Wikipedia, the free encyclopedia
In competition **ranking**, items that **compare** equal receive the same **ranking** number, and then a gap is left in the **ranking** numbers. The number of **ranking** ...
[en.wikipedia.org/wiki/Ranking](#) - [Cached](#) - [Similar](#) - [Print](#) - [Share](#)

A Comparison of Ranking Methods for Classification Algorithm Selection
is based on Spearman's rank correlation coefficient. To **compare ranking** methods, a combination of Friedman's test and Dunn's multiple com- ...
[www.springerlink.com/index/mh87p44744x70258.pdf](#) - [Similar](#) - [Print](#) - [Share](#)
by PB Brazil - 2000 - [Cited by 46](#) - [Related articles](#)

College Football Ranking Comparison
College Football **Ranking** Comparison. Sunday, November 8, 2009 (127 **Rankings**) | Last Week | Archived | [FBS](#) | [FCS](#) | [Summary](#) | [CSV Data](#) | ...
[www.masseyratings.com/cfbcompare.htm](#) - [Cached](#) - [Similar](#) - [Print](#) - [Share](#)

College Basketball Ranking Comparison
Monday, April 6, 2009 (36 **Rankings**) Cor 923 810 923 898 819 868 888 777 839 899 860 243 246 245 248 241 251 247 249 248 264 **Ranking** Violation % 254 ...
[www.masseyratings.com/cbbcompare.htm](#) - [Cached](#) - [Print](#) - [Share](#)

FIFA.com - Compare Teams
With FIFA.com you can **compare** the progress of up to four teams in the FIFA/Coca-Cola World **Ranking**. See how teams have risen and fallen since August 1993 ...
[www.fifa.com/...ranking/compare/compareteams.html](#) - [Cached](#) - [Similar](#) - [Print](#) - [Share](#)

GetEducated.com | Rate, Rank & Compare Online Colleges & Degrees
GetEducated.com's directory of online degrees provides **rankings**, ratings, and comparison tools to help you choose the best online degrees from the best ...
[www.geteducated.com/](#) - [Cached](#) - [Similar](#) - [Print](#) - [Share](#)

Compare your website rankings in Google Caffeine [Advanced Web ...](#)
Aug 18, 2009 ... To help you **compare** your website **rankings** from Google with the **rankings** from Google Caffeine we have created a quick step-by-step tutorial.

Web Images Videos Shopping News Maps More MSN Hotmail

bing

ALL RESULTS 1-10 of 8,810,000 results - [Advanced](#)

FIFA.com - Compare Teams
With FIFA.com you can **compare** the progress of up to four teams in the FIFA/Coca-Cola World **Ranking**. See how teams have risen and fallen since August 1993 and pinpoint their ...
[www.fifa.com/worldfootball/ranking/compare/compareteams.html](#) - [Cached page](#)

How to Compare Graduate School Rankings | eHow.com
Choosing a graduate school can be a stressful and confusing process for any student. By comparing graduate schools and their **rankings** a student can choose which one fits her ...
By eHow Education Editor - Difficulty: Moderate - 0 posts
[www.ehow.com/how_2051516_compare-graduate-school-rankings.html](#) - [Cached page](#)

Ranking - Wikipedia, the free encyclopedia
Items that **compare** equal receive the same **ranking** number, which is the mean of what they would have under ordinal **rankings**. Equivalently, the **ranking** number of 1 plus the number of ...
[en.wikipedia.org/wiki/Ranking](#) - [Enhanced view](#)

Ranking Compare
Ask Google Yahoo Search | Web browser tool - Shows search results for a given keyword or phrase on the top three engines, Google, Yahoo and Man.
[tools.essential-seo.com/ranking-compare](#) - [Cached page](#)

SchoolDigger.com - School Rankings, Reviews and More - Public and ...
Find the best elementary, middle, and high schools. Search for schools near any address, **compare** test scores, sort by school **ranking**, class sizes, and more using SchoolDigger.
[www.schooldigger.com](#) - [Cached page](#)

College and university rankings - Wikipedia, the free encyclopedia
The College and university **rankings** are a lists of universities and liberal arts colleges in higher education, an order determined by any combination of factors.
International ... · Regional and national ... · Criticism (North America)
[en.wikipedia.org/wiki/College_and_university_rankings](#) - [Enhanced view](#)

www.hospitalcompare.hhs.gov
[www.hospitalcompare.hhs.gov/Hospital/Search/SearchCriteria.asp?version=default&browser=IE...](#)

Rest of today's agenda

Formal problem: Counting inversions

Divide and Conquer algorithm

Divide and Conquer

Divide up the problem into at least two sub-problems

Recursively solve the sub-problems

Solve all sub-problems: Mergesort

Solve some sub-problems: Multiplication

Solve stronger sub-problems: Inversions

“Patch up” the solutions to the sub-problems for the final solution

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Mergesort-Count algorithm

Input: a_1, a_2, \dots, a_n

Output: Numbers in sorted order+ #inversion

MergeSortCount(a, n)

If $n = 1$ return (0 , a_1)

If $n = 2$ return ($a_1 > a_2$, $\min(a_1, a_2)$; $\max(a_1, a_2)$)

$a_L = a_1, \dots, a_{n/2}$ $a_R = a_{n/2+1}, \dots, a_n$

(c_L, a_L) = MergeSortCount($a_L, n/2$)

(c_R, a_R) = MergeSortCount($a_R, n/2$)

(c, a) = MERGE-COUNT(a_L, a_R)

return ($c+c_L+c_R, a$)

$$T(2) = c$$

$$T(n) = 2T(n/2) + cn$$

$O(n \log n)$ time

$O(n)$

Counts #crossing-inversions+
MERGE