

Lecture 23

CSE 331

Oct 27, 2021

Please have a face mask on

Masking requirement



UR requires all students, employees and visitors – regardless of their vaccination status – to wear face coverings while inside campus buildings.

<https://www.buffalo.edu/coronavirus/health-and-safety/health-safety-guidelines.html>

Apologies on website being down

note @400   stop following 18 views

CSE 331 website is now up!

Following up on @399 and @398: the course website is now up!

<http://www-student.cse.buffalo.edu/~atri/cse331/fall21/index.html>

Apologies again for any inconvenience caused by the website being down for the last few hours!

[Screenshot](#)

 good note | 0

Updated 27 minutes ago by Ari Rubin

Project deadlines coming up

Fri, Oct 29	Counting Inversions    x^3	[KT, Sec 5.3] (Project (Problem 1 Coding) in)
Mon, Nov 1	Multiplying large integers    x^3	[KT, Sec 5.5] (Project (Problem 1 Reflection) in) <i>Reading Assignment: Unraveling the mystery behind the identity</i>
Wed, Nov 3	Closest Pair of Points    x^3	[KT, Sec 5.4]
Fri, Nov 5	Kickass Property Lemma    x^3	[KT, Sec 5.4] (Project (Problem 2 Coding) in)
Mon, Nov 8	Weighted Interval Scheduling   x^2	[KT, Sec 6.1] (Project (Problem 2 Reflection) in)

Group formation instructions

Autolab group submission for CSE 331 Project

The lowdown on submitting your [project](#) (especially the [coding](#) and [reflection](#)) problems as a group on Autolab.

Follow instructions **EXACTLY** as they are stated

The instructions below are for Coding Problem 1

You will have to repeat the instructions below for EACH coding AND reflection problem on project on Autolab (with the appropriate changes to the actual problem).




Form your group on Autolab

Groups on Autolab will NOT be automatically created

You will have to form a group on Autolab by yourself (as a group). Read on for instructions on how to go about this.

[Click to add notes](#)

Preliminary grading rubric

note @401    my following **5** views

Preliminary rubrics for reflections problems up

We have added preliminary grading rubrics for each reflection question:

<http://www-student.cba.buffalo.edu/~atr/bse331/fal21/projectreflection.html>

As noted in the page above, please keep in mind that in actual grading, we will use a grading rubric that expands on the preliminary grading rubric, i.e. you are NOT seeing the final rubric that will be used to grade your submissions.

We hope this preliminary grading rubric helps as y'all start working on the reflection questions.

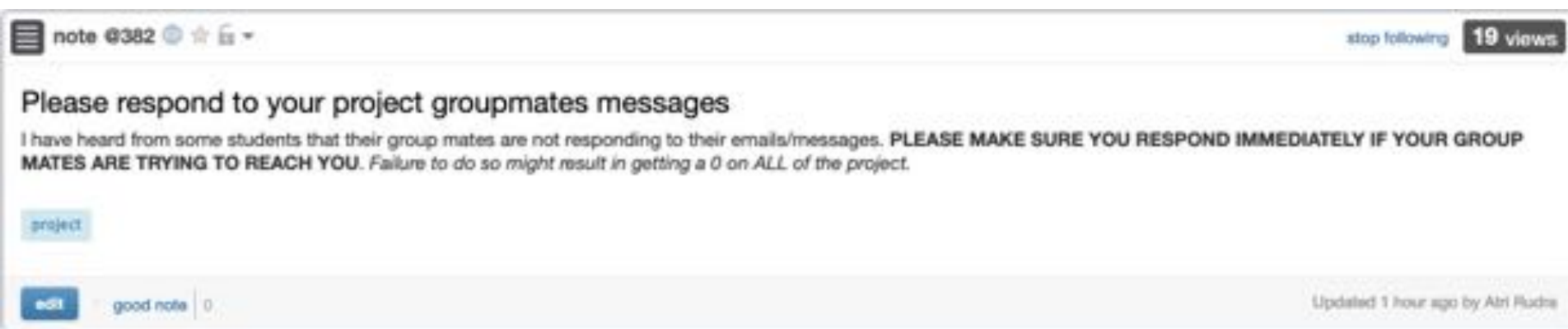
[print](#)

Preliminary Grading Guidelines

Below is a preliminary instantiation of the generic grading rubric above for (all ten parts of) Problem 1. In actual grading, we will use a grading rubric that expands on the preliminary grading rubric below.

- **Level 0**
 1. The authors did not respond with all 10 stakes; OR
 2. Answers may not be entirely relevant to the assignment.
- **Level 1**
 1. The authors did respond with all 10 stakes. Although, the responses may be underdeveloped; AND
 2. The authors clearly understand the questions, but have not demonstrated much effort in thinking through the different interests each stakeholder would have. Answers may seem perfunctory.
- **Level 2**
 1. The authors respond with all 10 stakes thoroughly and thoughtfully; AND
 2. The authors clearly demonstrate their grasp of the questions and the various perspectives each stakeholder might have on the same design; AND
 3. They demonstrate that what stakeholders' value differs depending on their own context.

Please be in touch w/ your group



A screenshot of a note in a social media or messaging app. The note is titled "Please respond to your project groupmates messages" and contains a warning about not responding to group messages. The note has 19 views and was updated 1 hour ago by Atri Rudra.

note @382 stop following **19 views**

Please respond to your project groupmates messages

I have heard from some students that their group mates are not responding to their emails/messages. **PLEASE MAKE SURE YOU RESPOND IMMEDIATELY IF YOUR GROUP MATES ARE TRYING TO REACH YOU.** *Failure to do so might result in getting a 0 on ALL of the project.*

project

edit good note 0 Updated 1 hour ago by Atri Rudra

Questions/Comments?



Mergesort algorithm

Input: a_1, a_2, \dots, a_n

Output: Numbers in sorted order

MergeSort(a, n)

If $n = 1$ **return** the order a_1

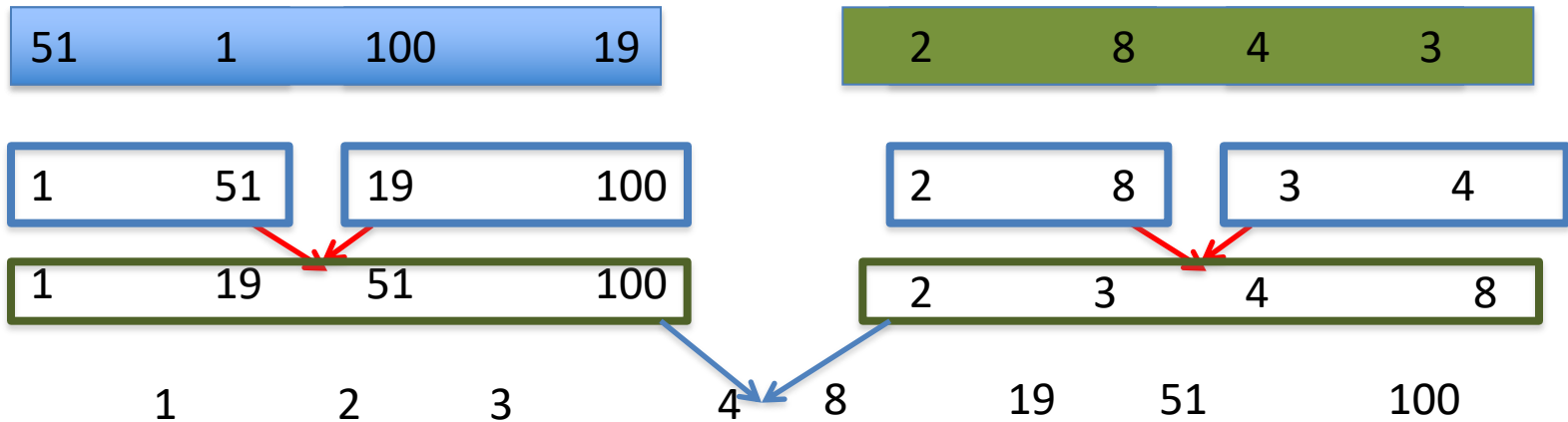
If $n = 2$ **return** the order $\min(a_1, a_2); \max(a_1, a_2)$

$a_L = a_1, \dots, a_{n/2}$

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

return MERGE (**MergeSort**($a_L, n/2$), **MergeSort**($a_R, n/2$))

An example run



MergeSort(a, n)

If $n = 1$ **return** the order a_1

If $n = 2$ **return** the order $\min(a_1, a_2); \max(a_1, a_2)$

$a_L = a_1, \dots, a_{n/2}$

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

return MERGE (**MergeSort**($a_L, n/2$), **MergeSort**($a_R, n/2$))

Correctness

Input: a_1, a_2, \dots, a_n

Output: Numbers in sorted order

MergeSort(a, n)

If $n = 1$ return the order a_1

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

$a_L = a_1, \dots, a_{n/2}$

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

return MERGE (MergeSort($a_L, n/2$) MergeSort($a_R, n/2$))

By
induction
on n

Inductive step follows from correctness of MERGE

Runtime analysis on the board...



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

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](#) -

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

College Basketball Ranking Comparison
Monday, April 6, 2009 (36 Rankings) --- Cor 923 810 923 898 819 888 888 777 639 899 880
243 246 245 248 241 251 247 249 248 244 Ranking Violation % 254 ...
www.massseyratings.com/cb/compare.htm - [Cached](#) -

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](#) -

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 ...
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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.

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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 MSN.
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](#)

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