

Lecture 10

CSE 331

Sep 18, 2024

Register your project groups

Deadline: Friday, Sep 20, 11:59pm

CSE 331

Syllabus

Piazza

Schedule

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Autolab

Project ▾

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Sample Exams ▾

Project Overview

Group signup form

Forming groups

You form groups of size **exactly three (3)** for the project. Below are the various logistics:

- You have two choices in forming your group:
 - You can form your group on your own: i.e. you can submit the list of EXACTLY three (3) group members in your group.

</> Note

Note that if you pick the option of forming a group of size two. If

Also, if you form a group

If you miss this deadline then you will get a ZERO on the ENTIRE project

cannot submit as

- You can submit *just your name*, and you will be assigned a random group *among all students who take this second option*. However, **note that if you pick this option, you could end up in a group of size 2**. There will be at most two groups of size 2.

</> Potential risk

Note that if you pick the option of being assigned a random group, you take on the risk that a assigned group might not "pull their weight." We unfortunately cannot help with such aspects of group dynamics. (Of course if a group member is being abusive, please do let Atri know.) Please note that a group member who does not do much work will get penalized on the [individual component](#) of the project grade.

Submitting your group composition

Use [this Google form](#) to submit your group composition (the form will allow you to pick one of the two options above).

- You need to fill in the form for group composition by **11:59pm on Friday, September 20**.

Confirmation of form submission

note @85

stop following 89 views

Actions

Confirmation of your group submission

If you submitted the Google correctly (also see @83) for the group formation, you should be fine. However, if you would like to receive a confirmation, as I had mentioned in class on Friday:

- If you submit your form by **11:59pm, Tue, Sep 17**, I will send you (or group as appropriate) a confirmation email that I have received your information (on Sep 18).
- If you submit the form after the time above but by the actual deadline of **11:59pm on Fri, Sep 20**, then I will send a confirmation *after* the deadline (but no later than Monday, Sep 23).

project

Edit good note 0

Updated 2 days ago by Atri Rudra

Expect a confirmation by midnight tonight

If you need it, ask for help



Piazza response policy

Piazza Response policy

Please note the following rules regarding response time to student questions on Piazza:

1. Any question posted between Friday 5pm and Monday 9am might not get an answer from CSE 331 staff before Monday 9am.
2. On weekdays, we will aim to respond to student question within four hours unless the question is posted between 7pm and 9am, in which case we might only be able to respond after 9am.

Please note that the above does *not* mean that we will never answer questions posted in the evening/night times as mentioned above-- it's just that we might not always be able to respond within four hours. Based on previous years, I do expect there to be reasonable response time in the evening times as well-- it's just that OUR response times might be more variable.

“One click” rule

note @94   

stop following **2 views**

Actions ▾

One-click rule

A gentle reminder that the [one click rule](#) is in place for allowed source. I.e. you should not be clicking on links from webpages that are allowed sources.

Note that the above includes not clicking on a non-English language version of a Wikipedia page since apparently different languages can have different content for the same page.

logistics

Edit good note | 0

Updated 44 seconds ago by Atri Rudra

If you did an AI violation on HW 1

You can still withdraw it with no penalty by 11:59pm tonight

Withdrawing a submission for academic integrity violation

Sometime mistakes can happen so you have the **option of withdrawing any of your Homework submission with 24 HOURS of the assignment deadline**. You can do this by sending Atri an email, e.g. by using the following template (thanks to [Oliver Kennedy](#) for providing us the template):

Email template for withdrawing submission

Dear Dr. Rudra/Atri,

I wish to inform you that I have violated CSE 331 policies on my submission for Question X on Homeworks/Assignment N. I wish to withdraw my submission to preserve academic integrity.

J.Q. Student
Person #12345678
UBIT: jqstuden

Sincerely, J

On receiving the above email, I will assign J a 0 on Question X on Homeworks/Assignment N but disregard any Academic Integrity issues with the problematic submission. Note that J is not required to present any details on how they violated academic integrity.

Homework 2 out!

Homework 2

Due by **11:30pm, Tuesday, September 24, 2024.**

Make sure you follow all the [homework policies](#).

All submissions should be done via [Autolab](#).

Sample Problem

The Problem

This problem is just to get you thinking about asymptotic analysis and input sizes.

An integer $n \geq 2$ is a prime, if the only divisors it has is 1 and n . Consider the following algorithm to check if the given number n is prime or not:

For every integer $2 \leq i \leq \sqrt{n}$, check if i divides n . If so declare n to be *not* a prime. If no such i exists, declare n to be a prime.

What is the function $f(n)$ such that the algorithm above has running time $\Theta(f(n))$? Is this a polynomial running time -- justify your answer. (A tangential question: Why is the algorithm correct?)

[Click here for the Solution](#)

Submission

You will **NOT** submit this question. This is for you to get into thinking more about asymptotic analysis.

HW 1 solutions out

note @98

stop following

1 view

Actions

Solutions to HW 1 (+HW2 out)

Here is a link to solutions for HW 1: <https://buffalo.box.com/s/0t76leuiv1mb7u9bhczu7ajofs5llu74>

Please note that downloading is disabled and **please do not share the link with anyone else.**

Also this will be a good time to do a post-mortem on HW 1: [@71](#)

On a related note, HW2 has been up since 11:45pm last night: <http://www-student.cse.buffalo.edu/~atri/cse331/fall24/hws/hw2/index.html>

homework1

homework2

Edit

good note | 0

Updated 5 minutes ago by Atri Rudra

Implementation Steps

(0) How to represent the input?

2D arrays: [WomanPref](#), [ManPref](#)

(1) How do we find a free woman w ?

(2) How would w pick her best unproposed man m ?

(3) How do we know who m is engaged to?

(4) How do we decide if m prefers w' to w ?

$O(n)$ init
 $O(1)$ query/update

Overall running time

Init(1-4)



$n^2 \times (\text{Query/Update}(1-4))$

Questions?

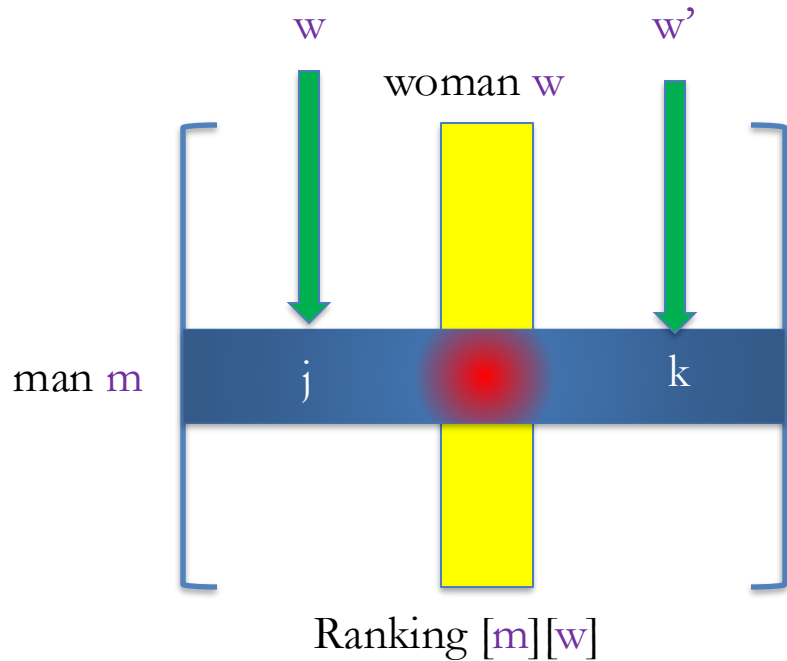


Rest on the board...

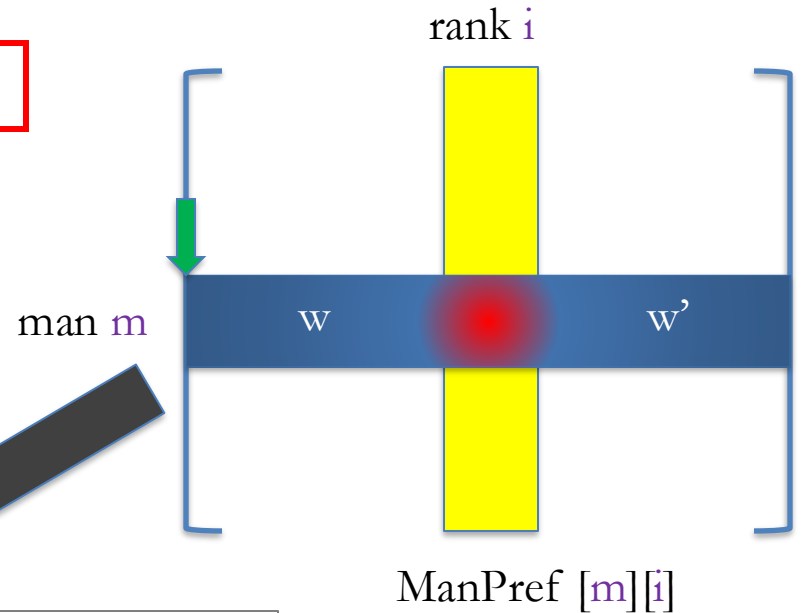


Answering Q4

$O(n)$ for one query $\Rightarrow O(n^3)$ overall



$O(1)$ query time



Initialization time?

$O(n^2)$ time overall

(4) How do we decide if m prefers w' to w ?

Puzzle

Prove that **any** algorithm for the SMP takes $\Omega(n^2)$ time