CSC 148 Winter 2017

Week 12

Tracing, odds & ends

Exam review

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Outline

- Memory, tracing code, tracing recursive functions
- Odds and ends, interesting topics for further exploration
- Summary / review

Debugging

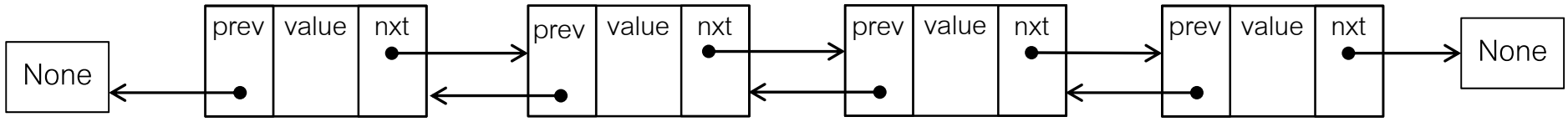
- Main idea
  - Follow the logic of your code, step by step
  - Analyze if the behaviour of your code is as expected
- Important skill
  - Especially for complex code
  - Gets you out of tricky spots
  - Better alternative to using print statements
    - Logging in general does have benefits though..

Tracing recursive functions

- An easy way to verify if your implementation exhibits the intended behaviour
- As with any debugging, find bugs or corner cases that are not addressed
- Still need to draw diagrams!

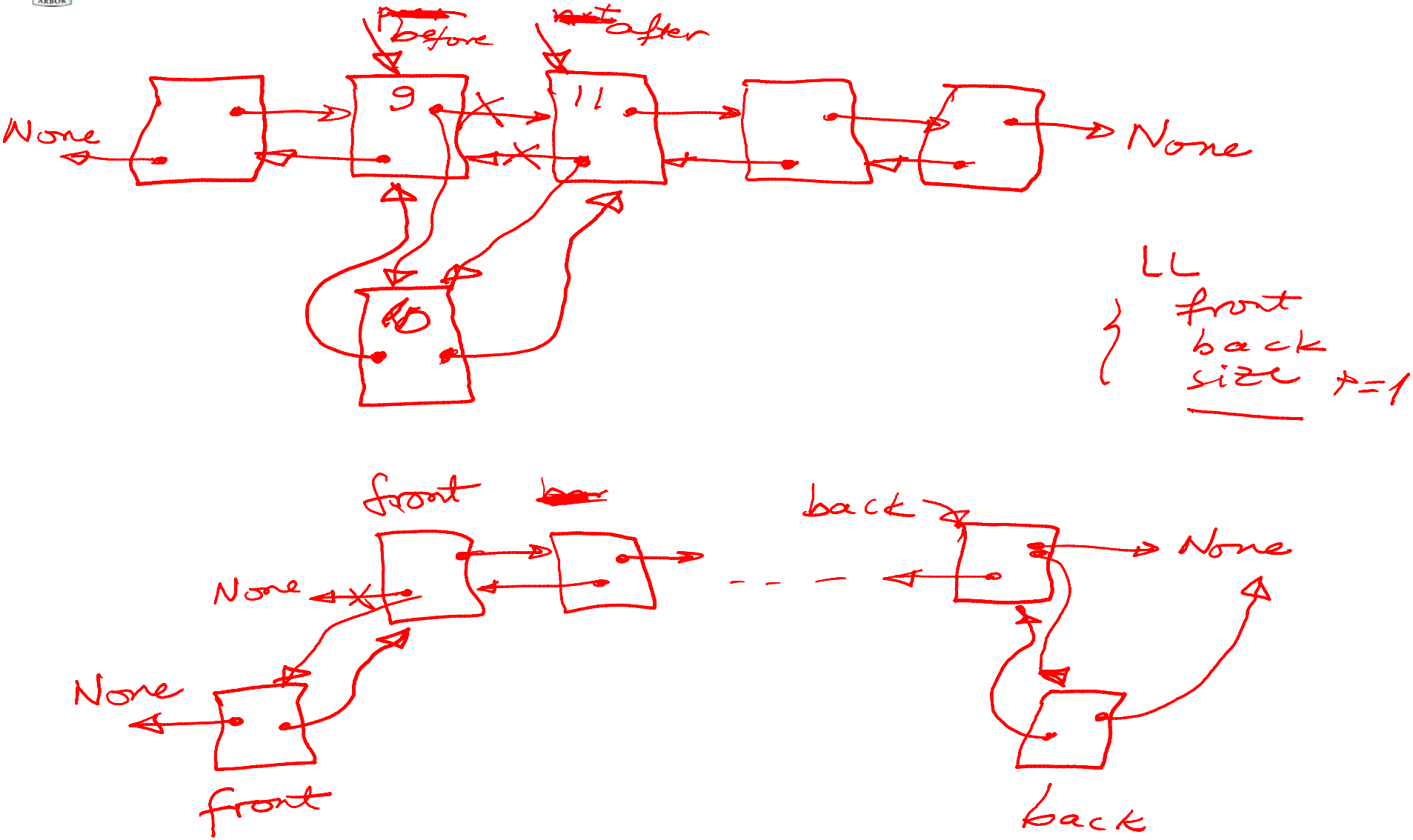
Linked lists - revisited

- More practice with linked list operations ...
- Doubly-linked lists



- Remember: draw diagrams!

Insert in sorted order



Exam logistics

The final exam

- When and where:
  - http://www.artsci.utoronto.ca/current/exams/apr17

CSC148H1S	A - KH	TUE 25 APR	EV 7:00 - 10:00	EX 100
CSC148H1S	KI - TI	TUE 25 APR	EV 7:00 - 10:00	EX 200
CSC148H1S	TO - X	TUE 25 APR	EV 7:00 - 10:00	EX 300
CSC148H1S	Y - ZHON	TUE 25 APR	EV 7:00 - 10:00	EX 310
CSC148H1S	ZHOU - ZZ	TUE 25 APR	EV 7:00 - 10:00	EX 320

- Check that you know the room and how to get to it, in advance!
  - www.osm.utoronto.ca/map/
- EV == evening! That's at 7-10PM, not AM!
- Plan to be there 10-15 minutes before .. Exam starts on the hour!

Preview:

PLEASE HAND IN

UNIVERSITY OF TORONTO
Faculty of Arts and Science

April 2017 Examinations

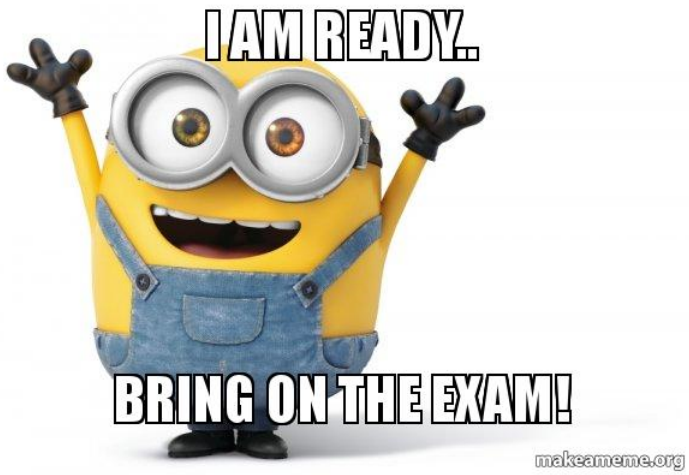
CSC148H1S
Duration — 3 hours
No aids allowed.

PLEASE HAND IN

Student Number: |_|_|_|_|_|_|_|_|_|_|_|_|_|

Last Name: _____

First Name: _____



Do **not** *turn this page until you have received the signal to start.*
(In the meantime, please fill out the identification section above, and read the instructions below.)

This exam consists of 7 questions on 22 pages (including this one). *When you receive the signal to start, please make sure that your copy of the exam is complete.*

Please answer questions in the space provided. If you need additional space, clearly indicate on the question page where to find your answer.

You will earn 20% for any question you leave blank or write "I cannot answer this question" on. You may earn substantial part marks for writing down the outline of a solution and indicating which steps are missing.

You must achieve 40% of the marks on this final exam to pass this course.

There is a Python API at the end of this exam.

1: _____/ 8
2: _____/ 8
3: _____/10
4: _____/ 6
5: _____/ 6
6: _____/10
7: _____/ 8

TOTAL: _____/56

Good Luck!

Exam coverage

- Everything..
  - Object-oriented design
  - Recursion
  - Linked lists
  - Trees (of all kinds)
  - Complexity (including hashtables)
- Revise materials from lectures, labs, assignments, etc.
- Practice your problem-solving skills

General tips: How to study

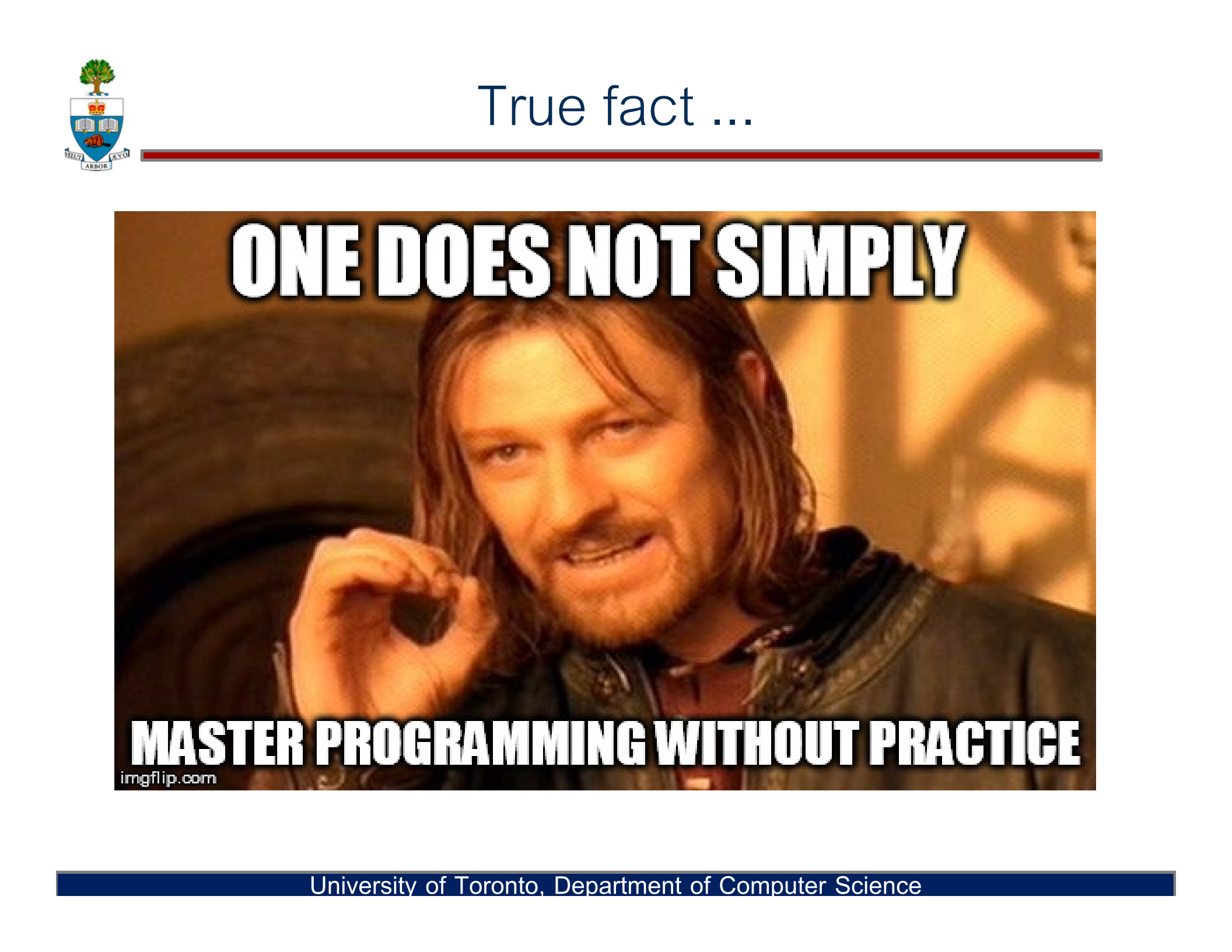
- I read all the slides and examples, I'm ready! ✗
- I did the labs at the time, I must be ready now! ✗
- I did all the examples myself from scratch, without looking at the solutions and I got it right!

  plus

- I did extra examples and looked into the documentation when I was stuck, then solved the extra work! ✓

More tips on how to study

- Work on a lab handout, or incomplete code, before looking at the solution
- Practice some more examples
- Study groups can challenge each other, critique solutions
- Use office hours!
- Did I mention practice?

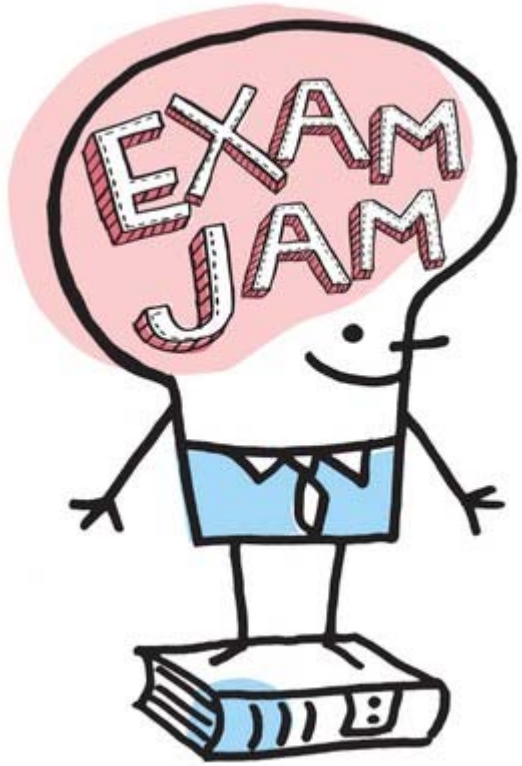


True fact ...

ONE DOES NOT SIMPLY
MASTER PROGRAMMING WITHOUT PRACTICE
imgflip.com

Exam Jam Session – April 6

- http://www.artsci.utoronto.ca/current/exam_jam
- Check the website
  - CSC148: 3pm, SS1085
  - Check out fun and active stuff too
    - 11-3: There will be puppies!



More General Tips

- Do not panic! Take a deep breath, you've got this!
  - This is your chance to show us what you've learned
  - We WANT to give you the credit that you've earned
- Read carefully!
  - What is the question asking?
  - Don't confuse things
  - If there's anything unclear, please ask!
- Keep track of your time
  - Some questions take more time than others
  - Do not spend too much time on a question if you are stuck – might want to revisit it later

Concluding remarks

- I hope you found the course worthwhile and enjoyable
- Remember course evaluations – please make sure to fill them out!
- Good luck with the final exam!
  - ~~Double-check~~ Triple-check the exam schedule carefully and arrive in advance
- Thank you for a great class, it's been a real pleasure teaching you this term!