11102

Introduction to Computing

Fall 2025

Agenda

- Get to know **me**.
- Get to know **you**.
- Get to know the **course**.

Warmup Challenge # 1

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You have 10,000 black boxes, all of the same weight, except **one**!!

You want to use a **scale** to find this **heavy** box. What should you do?

Assume the scale can hold any number of boxes.

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Solution # 1

Compare every pair until two of different weight are found.

Too Slow!!

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Solution # 2

Split the boxes into **2 piles of 5,000** boxes each. Use the scale to compare them.

The heavier pile definitely has the heavier box! Get rid of the other pile!

Split the 5,000 pile into two piles of size **2,500**.
Compare and get rid of the lighter pile.

Repeat until we are left with only **2 boxes.**

Each use of the scale **eliminates half** of the boxes!

Very Quick!

Note

An **important** challenge in computing is:

How do we automate a task such that it is achieved in as little time as possible?

You will get
a *taste* of this
in this course!

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What should you do?

Solution # 1

Ask everyone to write their age and put it in a box.
Shuffle the box and then open it and compute the average.

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What should you do?

Solution # 1

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Shuffle the box and then open it and compute the average.

Does this guarantee privacy? 🤔

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Solution # 1

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Shuffle the box and then open it and compute the average.

Does this guarantee privacy? 🤔

No. You can say something like: I know none of you is below 40!
This will make some quite angry!

Warmup Challenge # 2

You want to know the **average age** of the people in a room, but no one in the room is willing to reveal their age to anyone.

What should you do?

Solution # 2

- Write a **random number** on a piece of paper.
- Give it to the first person and ask them to **add their age**, write the sum on another paper, and pass it to the next person (the other paper must be destroyed).
- The next person does the same, and so on.
- When everyone is done, subtract the random number from the total.

Bingo!

Note

An **important** challenge in computing is:

How do we perform tasks while maintaining privacy?

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Warmup Challenge # 3

I made a **super-intelligent paper.**
Do you believe me?

If not, do you want to challenge it?

Note

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How do we make intelligent machines? 

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  - Computer graphics and image processing.
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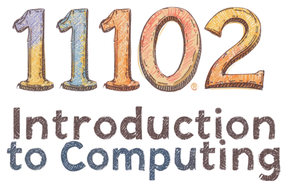
first 7 weeks

6 weeks
one week per application domain

Assessment	Weight	Description
Exercises	5%	12 problemsets due at the end of every week. You are allowed to drop the lowest 2.
Self Assessments	5%	12 quizzes for self assessment purposes done at home and due at the end of every week. You are allowed to drop the lowest 2.
Quizzes	12%	Two quizzes done in class, each worth 6%.
Assignments	8%	Due at the end of the semester and broken into parts due during the semester.
Midterm Exam	30%	The exact date and time will be set by the university.
Final Exam	40%	The exact date and time will be set by the university.
Total	**100%**	

Learning Material



`https://ialbluwi.github.io/11102-f25`

Course information, policies, textbook, slides, notes, etc.

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Already enrolled.

Midterm and Final Exams.

Section-specific material.

Schedule

Su/Tue/Thu | Mo/We

You can start today!

Week 1 (Introduction)

Oct 5:	Course Introduction	POLICY QUIZ ENTRY SURVEY [Slides] [Heavy Box Game]
Oct 7:	Introduction to Python	P4E.1 Install: python, vscode, python for vscode, GitHub Copilot
Oct 9:	Variables and Expressions	PE4.2
HW:	EXERCISES SELF-ASSESSMENT	

Due over the weekend!


Are you ready?!


Yes!!!