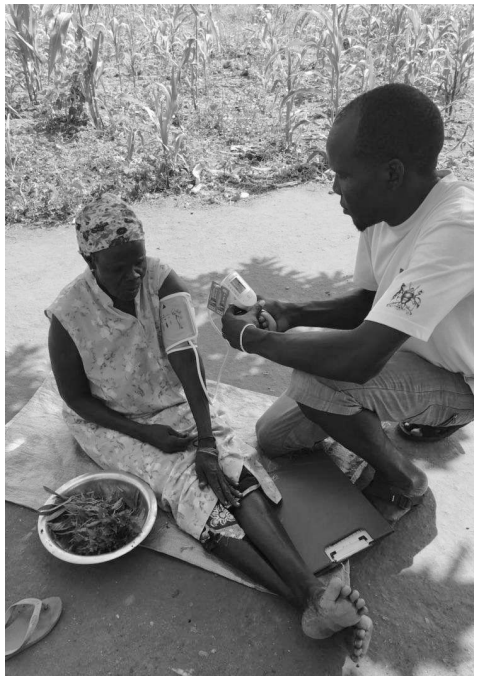
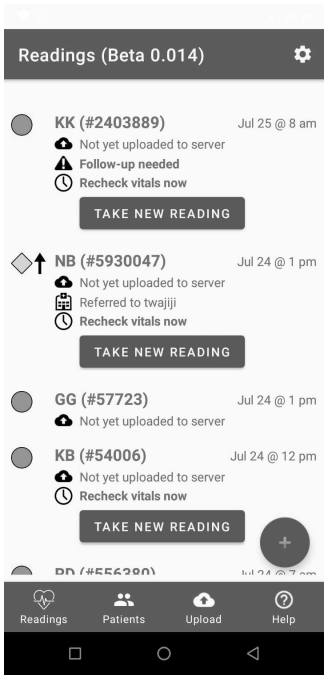
Computers can be part of the solution to each of these

Solving problems of social value

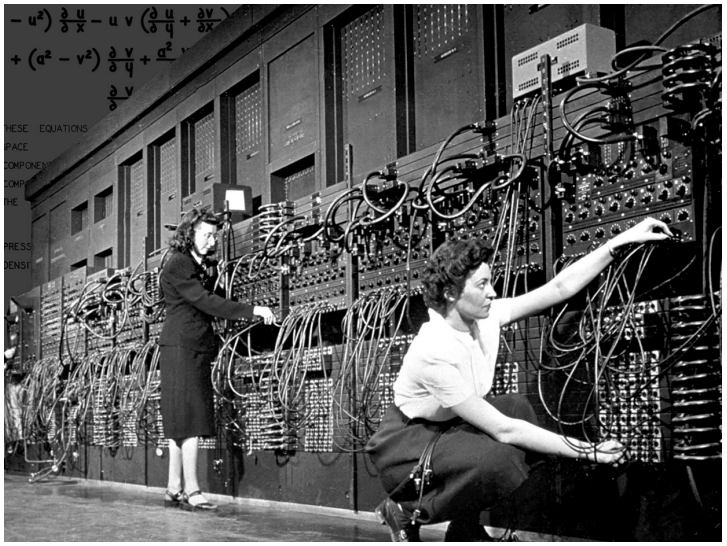
- Computers are a tool to change the world
  - Programming is how you get full control.
  - We can help people.





Topics

1) Who's Dr. Brian?
2) Whats in CMPT 130?
3) Who are the students?
4) How do I
   succeed & connect?

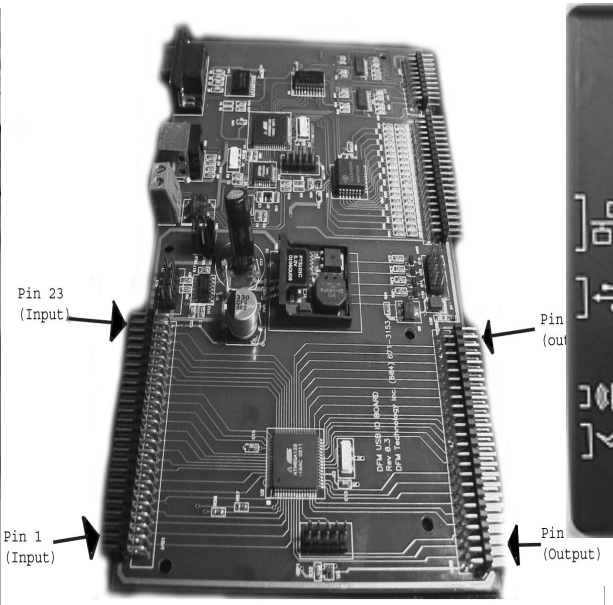


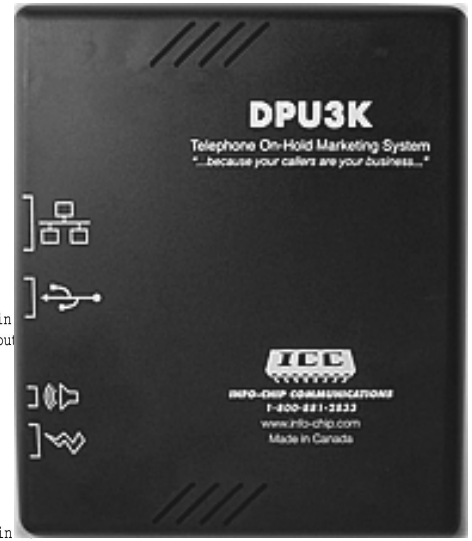
ENIAC computer - 1945

Who’s Dr. Brian?

Dr. Brian (Fraser) (he/him)

- I love questions and feedback!





About Me

- Love Teaching: I can help share my excitement for programming, and for making the world a better place.
- Degrees: BSc & PhD from SFU (AI)
- Favourite Video Game:
  StarCraft 2, WoW, Valheim, Mario Kart
- Family: Married with 2 girls (8y & 10y)
- I recognize that I am privileged to be in my position with many advantages afforded to me throughout my life.
  - I work to build a positive inclusive experience for everyone.

Course Expectation

- Only one thing
  - Use a positive tone for all communication (asking questions, on Piazza forums, with TAs)
  - Anon trolling hurts and won't be tolerated
  - Students have wide range of backgrounds; respect it
- If sending a message
  - Give a little context (class, your name, topic, ...)
  - Email: If you are sending more than 2 per week on average, over multiple weeks, it may be too many.

What's in CMPT 130?

http://tinyurl.com/briansfu/cmpt130/

Course Topics

- Basic Course Goal
  - Solving problems of social value
  - Thinking through problems: Programming in C++
  - Simple data structures
  - Algorithms

Flipped Classroom

- “Notes” Videos
  - Pre-recorded videos; posted by Monday
  - You should watch these before class (1-2h)
- Lecture (M/W/F) - Live Coding / Activities
  - Interactive coding and activities to engage content
  - Recorded and posted online
- Labs
  - Guided activities; one per week to get started
- Assignments
  - One every 2 weeks
  - Practice applying skills more independently

2 Week for Assignments

	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Week n	**Lecture:** Coding + Activities	**Lab**	**Lecture:** Coding + Activities		**Lecture:** Coding + Activities		**Lab** due
Week n+1	**Lecture**: Coding + Activities	**Lab**	**Lecture**: Coding + Activities		**Lecture**: Coding + Activities		**Assignment** due **Lab** due
	...	...	...	...	...	...	...

Next Wed: Quiz on previous assignment

Last day to hand in assignment (3 days late; 0% penalty)

Weekly Expectations

- 3 Units = ~9-10 hours / week
- Your week might look like:
  - Sunday: watch videos 1h
  - Monday: lecture 1h
  - Tuesday: lab,watch video 2h
  - Wednesday: lecture 1h
  - Thursday: try assignment, complete lab 2h
  - Friday: lecture 1h
  - Weekend: try assignment 1h

Assignments

- Programming is like driving a car:

- ~6 Assignments / Project
  - They tell you what to do, not how; you write code to solve the problem
  - You can't really say you know the course material unless you can do (re-do?) the assignments well!
- Generative AI
  - You may use AI tools to help (ChatGPT/Copilot/...)
- It's cheating to submit someone else's work
  - We check carefully & apply stiff penalties
  - It's also cheating to submit you previous work again

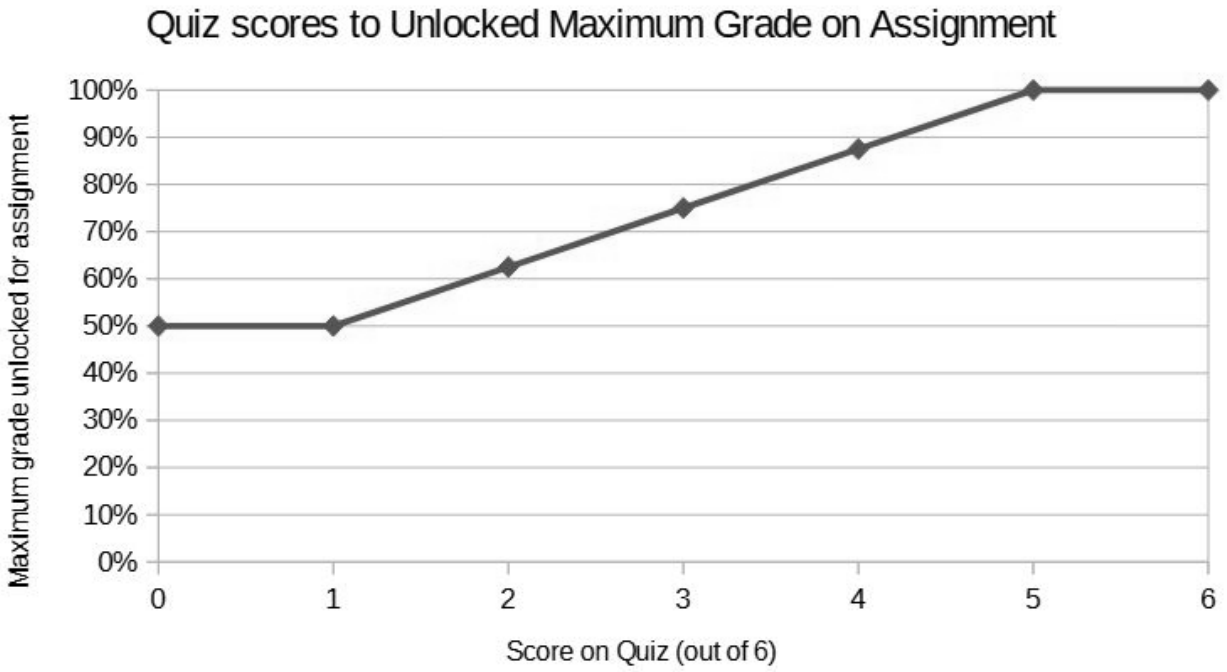
Evaluation

- 10% Labs
  - Most weeks (starting next week)
  - Attend any section(s)! (or none?)
  - **Submit lab online** by Sunday; completion marks
- 35% Assignments + Quiz (~6)
  - Assignment due about every 2 weeks; on Sunday
  - Following Wednesday has a short in-class quiz
  - Default maximum score on an assignment is 50%.Your quiz unlocks a maximum assignment score > 50%!
- 20% Midterm
  35% Final

Unlocking Assignment Scores

- Coding is critical to learning the material
  - AI systems (like ChatGPT and Copilot) can do all the coding for this course very well!
  - **You are allowed to use them to help you**; however, you must learn how to do the work!

- Default maximum score on an assignment **is 50%.**
- Your quiz **unlocks** a maximum assignment score > 50%!



Who are the students?

How are you feeling?

You already known:

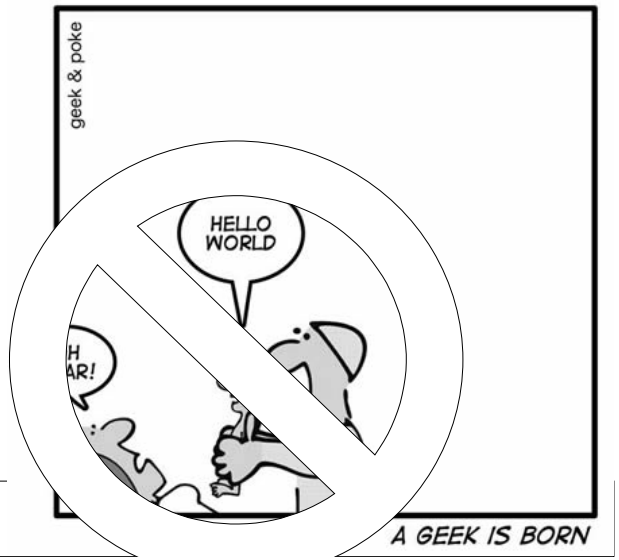
- How to use a computer and the web.
  - You are comfortable using directories/folders to find, create, copy and edit files.
  - You can check email and browse the web.
- You are eager to learn programming
  - Course is a rigorous introduction to programming.
  - It assumes no previous programming experience, nor experience with Linux.
  - Expect to put in a strong effort to learn programming.

Real-time Stand-up Survey

- Everyone stand up!
- How much programming have you done? (in any language)
  - None?
    - This is the right class for you to start your journey! Have a seat.
  - Some experience, but not a lot?
    - This is the right class for you to build your skills! Have a seat.
  - A lot!
    - This is the right class for you to help others! Have a seat.
- Lecture is for participation for everyone.

Growth Mindset

- Programming is skill a person develops;
  not one they were born with.
  - Nobody was *born* being good at C++.
  - Nobody was *born* being bad at C++.
  - Everyone good at C++ has worked hard and learned it.
- Computer Scientists learn helpful dispositions such as:
  - Collaborative
  - Inventive
  - Persistent
  - Meticulous
  - ...



How to Succeed
+
Make Connections

Stay home sick

- Stay home when needed
  - Feeling a little sick?
    Covid, cold or the flu!
    You should stay home
    and watch the video too!

- If I’m sick, I’ll cancel lecture, present remotely,
  or record a video

Guide to Slides

- Slide Colour Guide (often...):
  - Green: headings.
  - Yellow: Highlighted text.
    - Course has: midterm, quizzes, & final.
  - Blue: Term being defined.
    - Hour: 60 minutes.
  - Sweep-in Text: Blanked out text.
- Joke:
  - There are 10 types of people in the world...

Advice

- Previous Students have said about this course
  - Useful, practical course;
    May help you love programming
  - Easy start, gets really challenging really fast
  - Time consuming assignments
  - Tough but fair exams
  - Live long and prosper
    (Star Trek: technology
    for social good?)

Connecting

- Connect with Me
  - Come chat after class
  - Come to Lunch with Dr. Brian
- Connect with Help
  - Come to lectures & labs
  - Come to “Gathering Hour”
    (in-person office hour in a big room for everyone)
  - Come to my & TA online office hours (Discord)
- Start connecting early
- Start your assignments early

Meeting Someone!

Start chatting in groups of 3-4

- Exchange names and contact info
  (email/discord/whatsapp/instagram/X/?)
- Discuss the following:

1. What is the
   best thing computers have been used for?

2. What is the
   worst thing computers have been used for?