CODING & & COMPANY

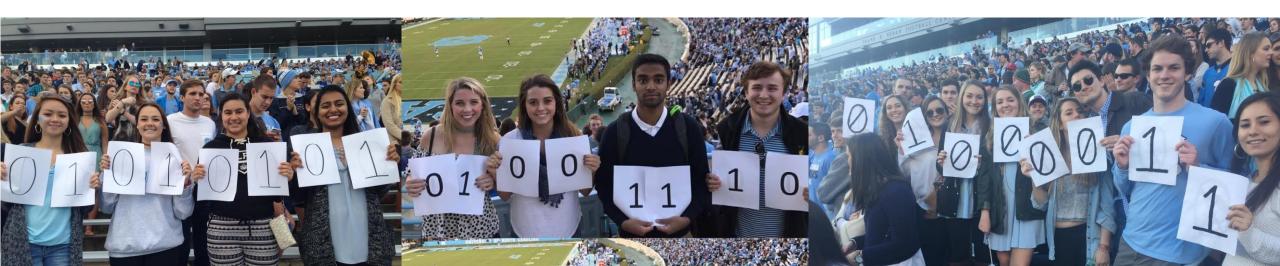
https://www.youtube.com/watch?v=eejLLL2wxHM

Not enrolled in Connect Carolina and trying to get in? Please fill out this

form: http://bit.ly/f18-110-enroll

Welcome to COMP110 Intro to Programming

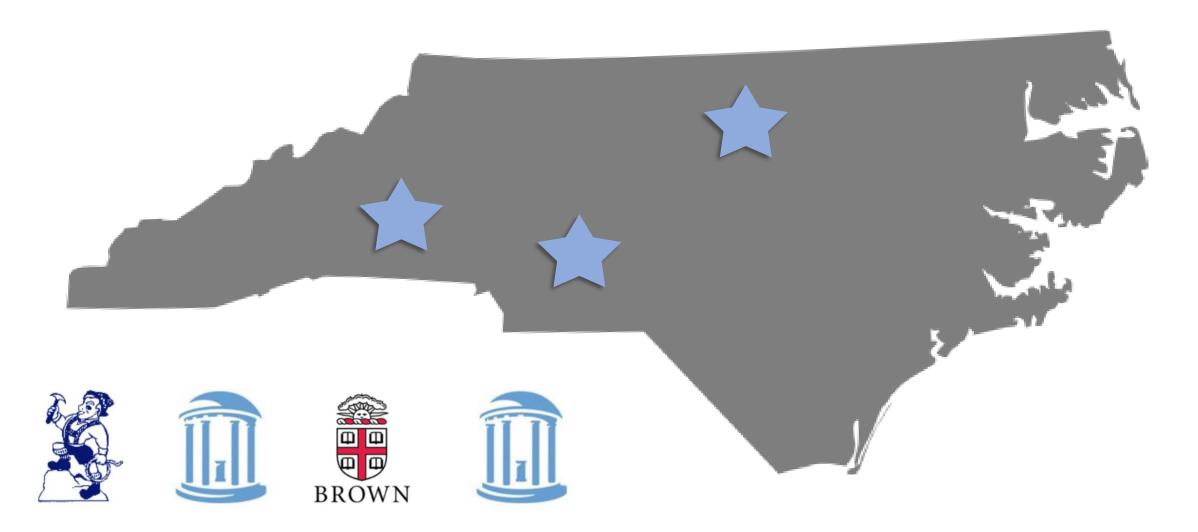
Fall 2018



Getting into COMP110

- This lecture hall is physically full to capacity for both sections.
 - There are literally no more seats available and we're at fire code.
- You can request addition through our internal waitlist:
 - http://bit.ly/f18-110-enroll
- We are closing registration on ConnectCarolina
 - If someone drops, a seat does not open for someone else to register
 - By next week we will add students on the waitlist via a lottery
 - I will e-mail you all updates as I have them, please be patient
- If you are enrolled and want to stay enrolled, do not drop for any reason because you will not be able to reclaim your seat.

Hi, I'm Kris.



Meet your COMP110 Family

What's your major?

Not COMP

Definitely COMP

What's your prior programming experience?

Greater than 10+ hours

Zero-to-10 hours

Zero Programming Experience Expected

• This course assumes *no* prior programming experience

COMP110 is a rigorous introduction to computer science

 If you have significant prior experience, consider starting in 401, if your schedule isn't otherwise too heavy

Meet the Real MVPs

- Your COMP110 UTA Team
 - http://comp110.com/team
- This course would be **impossible** for all of us, if not for them.
- THE absolute best UTA team at Carolina. You will 💜 them.
- This team can do it all: they'll help teach you concepts you're struggling with, guide review sessions, study guides, generate lecture ideas, and build problem sets. The 110 secret sauce.

Why computer science? Why learn how to "code"?

1. Think and jot down your answer (1 min)

- 2. Pair with your neighbor(s) (2 min)
 - Introduce one another, as well!
- **3. Share** with the class

Course Objectives

- You will learn the fundamentals of programming
 - These concepts are universal and apply to all programming languages
- You will gain practice with computational thinking
 - Thinking algorithmically while breaking down problems step-by-step
 - Thinking at varying levels of abstraction by describing problems and solutions abstractly and precisely
- You will leave knowing what it feels like to be a programmer

The Computer Scientist

as a Toolsmith

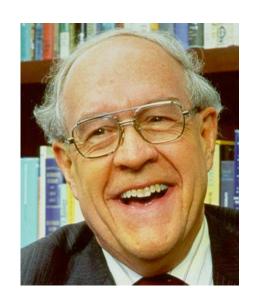


"The programmer, like the poet, works only slightly removed from pure thought-stuff.

(S)he builds castles in the air, from air, creating by exertion of the imagination.

Few media of creation are so flexible, so easy to polish and rework, so readily capable [...]"

Fred Brooks
Baller / O.G. / Founder of UNC CS Department



"Think...

Туре...

Magic Happens."

Prof. Gary Bishop

Programming is a Practiced Skill

• Like playing an instrument, painting, writing cursive letters, dancing, singing, sports, wood working, quilting, and so on....

Time spent *individually practicing* is the key to success.

• This is very different from courses that are knowledge-based!

• The team and I want you to succeed in learning how to program, so we structure everything we do toward helping you practice individually.

What will you do in COMP110?

Actively Watch Videos

- Similar to assigned readings in other courses except mostly video
- Important new concepts are introduced on videos
- You should take notes and engage as if it were lecture

Lecture

- Graded warm-up questions based on assigned videos
- Practice reading, tracing, and writing code
- Ungraded, challenge problems to dig into important concepts

Worksheets

Help gain pen-and-paper problem solving practice for PS's and quizzes

Problem Sets

• A wide sampling of engaging programs you'll write through the semester

Quizzes and Final Exam

- Old COMP110: 2 midterms each counting 20% of your final grade.
- This semester: No midterms! 6 quizzes, lowest dropped, five best each count 8% of final grade.
- Taking shortcuts on worksheets or problem sets will catch up to you on quizzes and the final.

Grading Breakdown

- Problem Sets 22%
- 6x Quizzes 40% (lowest quiz score dropped)
- Cumulative Final 20% must score 40% or higher to pass COMP110
- Worksheets 14%
- Participation via Warm-up Questions & PollEverywhere 4%
- Extra Credit possible through early PS and WS submissions

Collaboration Policy & Honor Code

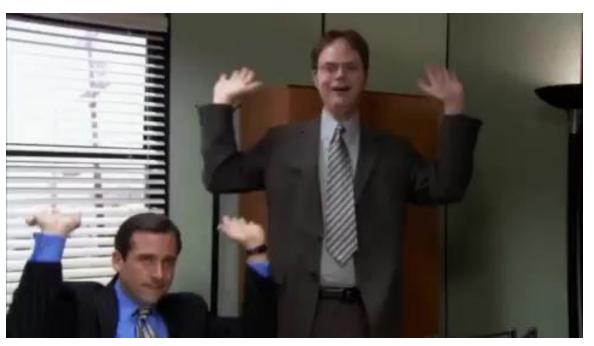
We take honor code violations very seriously.

Understand the policy details on the syllabus.

Collaboration Policy — General Content

• You are **encouraged** to discuss general course concepts with anyone including students not in 110 and tutors.

- This includes reviewing:
 - Slides
 - Documentation
 - Example lecture code
 - Exam study guides





Collaboration Policy – Problem Sets & Worksheets

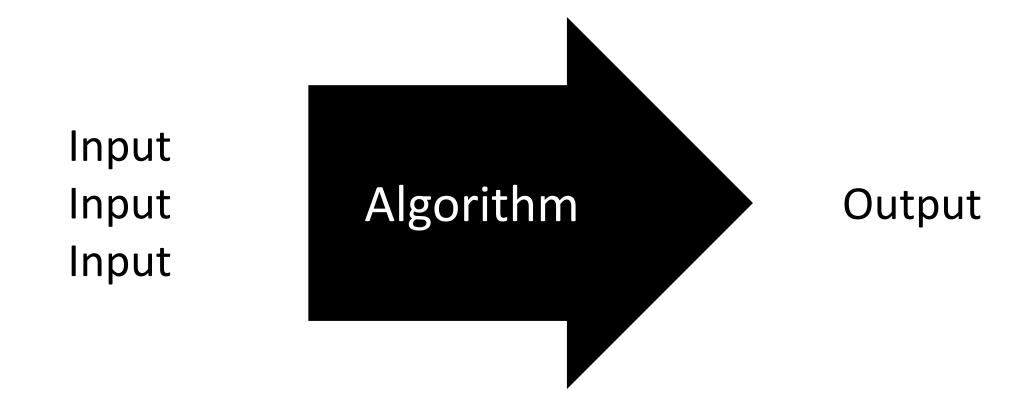
- No collaboration with anyone in or out of the course is allowed on problem sets and worksheets.
- The only permitted collaborators on problem sets are UTAs while they are working in their official capacity as a UTA.
- What is collaboration?
 - Looking at, or letting someone else look at, your code.
 - Talking about your code.
 - Copying or sharing code with anyone else or from community websites like StackOverflow, GitHub, or CourseHero.



And now, for some...



The Fundamental Pattern



The Fundamental Pattern

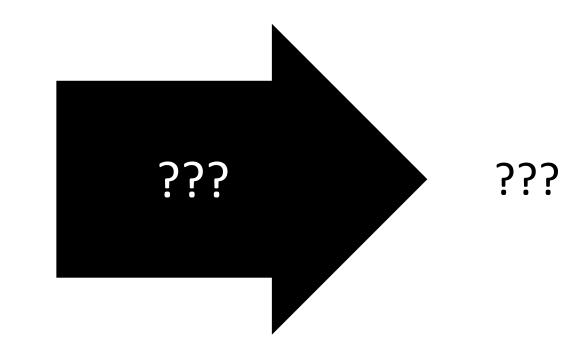
- From the scale of single lines of code to complete programs, this pattern of thinking is pervasive
- Input is data given to an algorithm
- An algorithm is a series of steps
- An algorithm has some effect, outcome, or output

Input Input Input Input

The Fundamental Pattern

555

- Think for a minute about where this pattern exists in the real world (not recipe!) or on your phone
- Pair with your neighbor(s) to discuss
- We'll share!



Gearing up for the semester ahead...

How-to Work on Problem Sets

- Start early. Start early. START EARLY!
- Read the instructions closely and follow them step-by-step:
 - They are written to help guide you through the assignment!
 - Do not skip around or try to move past a step before completing.
- Have open:
 - Lecture slides for related topics
 - The Topics page of the course website
 - Instructions for the assignment!
- When you get stuck:
 - Stare at your code for a while. Look it dead in its eyes.
 - Take a break, take a walk, go do something else.
 - Come see us in office hours!

• START EARLY!!!

The Struggle

- Programming is weird and different from almost everything you've ever done before.
- If you are feeling the "struggle" of working through problem sets you are doing COMP110 right.
- Struggling through problem sets is expected. *Everyone* goes through it in the beginning.
- Coming to *your own* understanding of concepts, independent of friends in the course, is THE ONLY way to do well.



Support for Your Journey Ahead

- The UTAs and I are here for you and really want you to succeed
- Tons of Office Hours
 - Full hours start next Monday
 - The Plan:
 - 10am 8pm Monday Thursday
 - 10am 6pm Fridays
 - 12pm 5pm Sundays
- Weekly Review Sessions Schedule coming soon.
- E-mail Support

Your Personal, Dedicated Teaching Team

• Everyone will be personally be assigned a pair of UTAs.

• Your teaching team is your first line of support and will be the most responsive in quickly answering questions or concerns.

These assignments will be made soon!

E-mailing about COMP110

• 1st line of defense – For the quickest response e-mail your personal teaching team. You'll see a link show up on My110 as soon as yours are assigned.

- 2nd line of defense Send mail to <u>comp110-heads@googlegroups.com</u>
 - This comes to me and the Head TAs

Course Web Page: comp110.com

- Syllabus
- Upcoming Due Dates for Videos, Problem Sets, and Worksheets
- Office Hours and Check-in
- Lecture Slides and Reference Guides
- Add to your Mobile Phone Home Screen #protip

We'd love **feedback** throughout the semester.

- We welcome feedback on all aspects of the course
 - From as simple as "your mic was too quiet"
 - To suggestions on how to improve videos, etc.
- Feedback form is linked in the sidebar of comp110.com

Please give us feedback while we have time to act on it!

• I'll also take class wide feedback through the semester.

Connecting on Social Media

• Twitter: @KrisJordan

• Snapchat: **cpuhat**

Don't stress, I will not follow you back!

• Insta: therealkrisjordan

• Facebook: Sorry, my mom's comments on my posts are too embarrassing.

Homework - By Thursday's Lecture on 8/23

 Actively watch videos 00, 01, 02, and 03 posted on the Calendar (45 minutes)

- Complete the required steps under Topics > Getting Started
 - 1. Read the Syllabus
 - 2. Register for Required Course Services
 - 3. Install Required Software
 - Need Help? Come to the **Getting Started Open House** Friday in Sitterson 008 from 12p-6p!!!
- Soft Deadline: Thursday's Class (8/23)
- Hard Deadline: Tuesday's Class (8/28)

Getting Started Help / UTA Open House Party

- Come Friday the 24th
 - Come by Sitterson's downstairs lobby Sitterson 008 between 12pm and 6pm

Get help installing course software

Meet Undergraduate Teaching Assistants

Have a great time

We're going to have an <u>awesome</u> semester. Get hyyyyppppppeeeee.

