Today's Goals

1. What is the course about?
2. Are you in the right course?
3. What are the instructional and workload expectations?
4. A little bit of Computer Science
5. Homework

Course Objectives

- You will learn the **fundamentals of programming** in the application area of **data science**
  - These concepts are universal and apply to nearly all programming languages
  - You will leave knowing what it feels like to be a programmer
  - You will know how to write programs to analyze and visualize real-world data sets
- 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 & solutions abstractly and precisely
- You will understand what **computer science** and **responsible computing** are all about

Meet the **Real MVPs**

- Your COMP110 UTA 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 exercises.
- You will be assigned 2x UTAs who are your personal leads.
- Drop-in, zoom office hours will be available to you for over 40 hours a week.
- Small group tutoring for conceptual help will be open many nights a week.


Abigail Kessel


Andrew Zheng


Aneka Happer


Aryonna Rice


Austin Wade


Kaki Ryan


Kris Jordan


Kyle Sorensen


Madeleine Genova


Madyson Barber


Ben Hites


Catherine Roberts


Chelsea Rowe


Claire Helms


Clayton Covington


Manuela Danso-Fordjour


Marc Lewis


Marlee Walls


Matt Kolsch


Megan Zhang


David Karash


David Nassif


Emma Jia


Erin Byrd

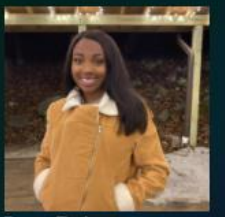

Ezri White


Meghan Sun


Naomi Smith


Olivia Wen


Quintin Gay


Raven Taylor


Fernando Garcia


Garrison Parrish


Hannah Cruz


Helen Charbonnet

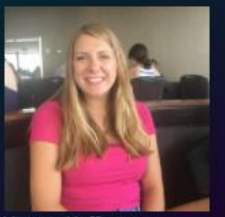

Iris Chien


Rebekah Seawell


Robert Susewell


Sadie Amato


Shaurik Deshpande


Victoria Hoffmann

Janet Mbugua

Jasper Christie

Jenn Kang

Jesse Wei

Josh Lovett

Zero Programming Experience Expected

- This course assumes *no* prior programming experience
  - But some experience is OK

- COMP110 is a ***rigorous*** introduction to programming.
  - 2.5 hours of lecture/lessons per week
  - and ~9 hours of practice / course work

What will you *do* in COMP110?

- **Prepare** - Actively Watch Assigned Videos, Review Notes, Read Assigned Papers
  - Like assigned readings in other courses except mostly video
  - You should take notes and actively follow along with coding and diagramming examples

- **Participate** - Follow-along in Lecture, Respond to Lesson and Reading Questions
  - Practice reading, diagramming, and writing code
  - Reflect on big questions in computer science and society

- **Practice**
  - Environment Diagrams: Pen-and-paper evaluation of code just like the computer does
  - Programming Exercises: Small programming problems to practice fundamentals
  - More open-ended and creative programs than exercises

- **Demonstrate Mastery**
  - Quizzes: 5x timed quizzes
  - Final Exam: Friday, December 3rd at 8am

Course Web Page: 21f.comp110.com

- Course Itinerary
  - Lessons
  - Videos
  - Exercises
- Logistics
  - Syllabus
  - Course Setup
- Support
  - 1-on-1 Office Hours
  - Tutoring

Collaboration Policy & Honor Code

We take honor code violations very seriously.
Understand the policy details on the syllabus.

Collaboration Policy – Graded Assignments

- No collaboration with anyone in or out of the course is allowed on exercises, projects, quizzes, or exams.

- **The only permitted collaborators on exercises and projects are UTAs while they are working in their official capacity as a UTA.**

- What is collaboration?
  - Posting screenshots to GroupMe or any other communication channel
  - Looking at/sharing, or letting someone else look at/share, your screen.
  - Talking about your code in a step-by-step fashion
  - Copying or sharing code with anyone else or from community websites like StackOverflow, Chegg, GitHub, or CourseHero
  - Asking for help from peers on GroupMe or any other group chat

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.

How do *you* believe programming will be valuable toward achieving *your* personal goals?

Why are you in this course?

Think for a **minute**, introduce yourself to your neighbor(s) and **discuss**, then we'll **share**.

Computer Scientists are ***Toolsmiths***

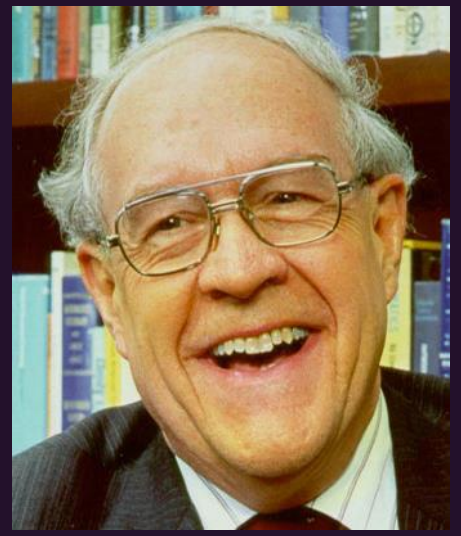
“The *programmer*, like the poet, works only slightly removed **from** ***pure thought-stuff.***

(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…

Type…

Magic Happens.”

Prof. Gary Bishop

Dr. Grace Hopper

"**Humans** are **allergic to change**.

They love to say,
'We've always done it this way.'

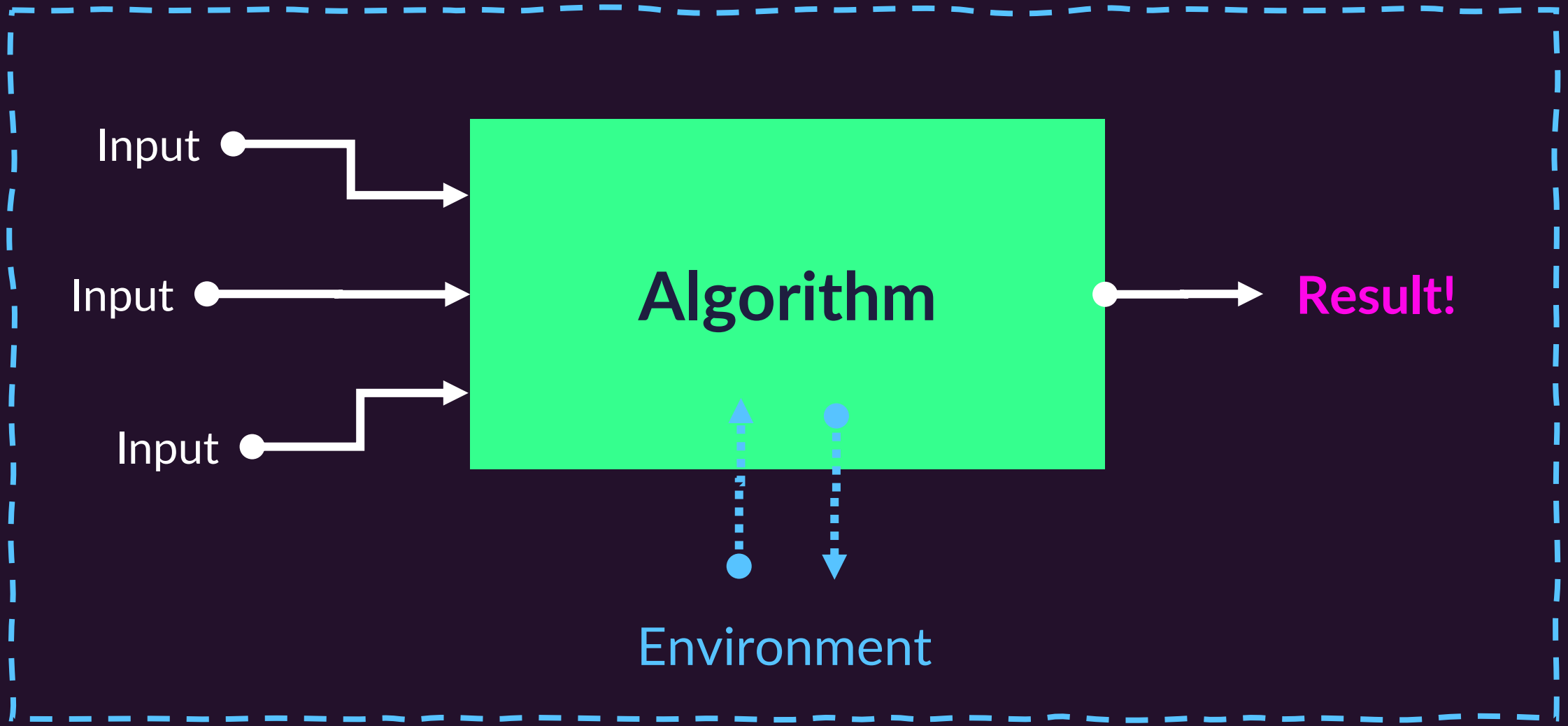
I try to fight that.

That's why I have a clock on my wall that ***runs counter-clockwise***."

& now for some...

Computer Science !

The Fundamental Pattern



The Fundamental Pattern

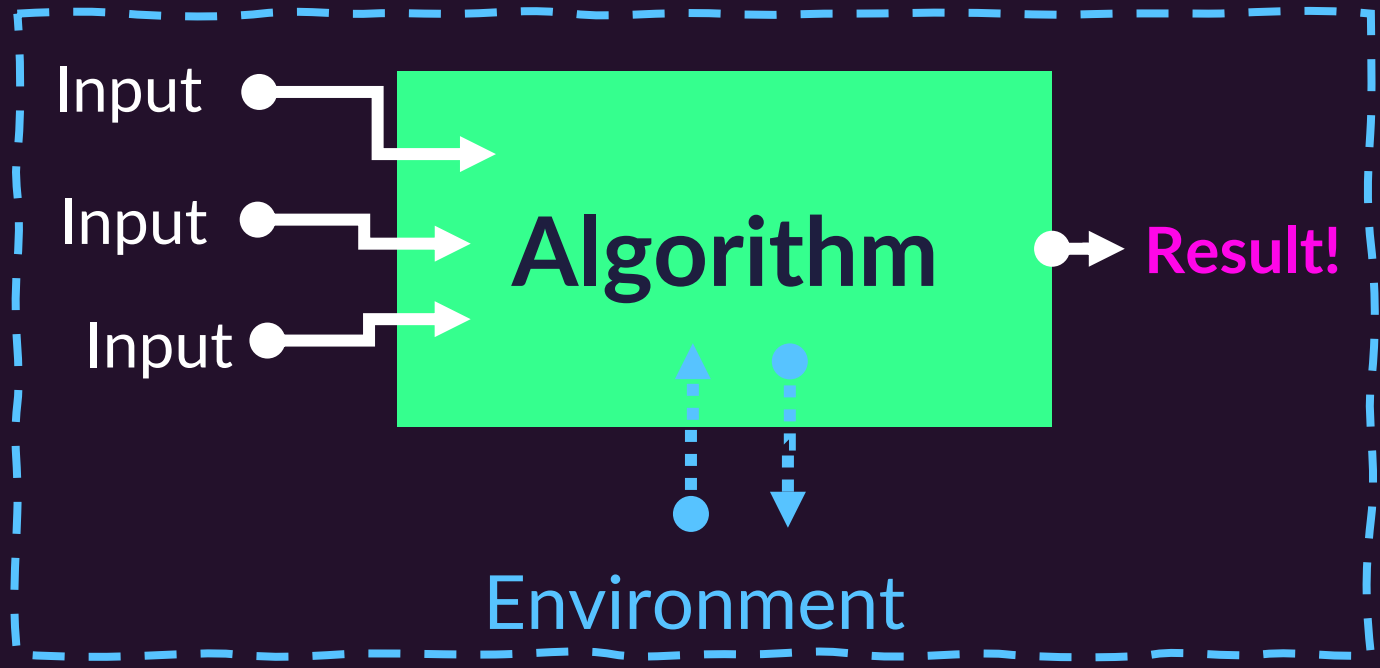
From the scale of **single lines of code** to **complete programs**, this pattern of thinking is pervasive

Input is data given to an algorithm

An **algorithm** is a series of steps

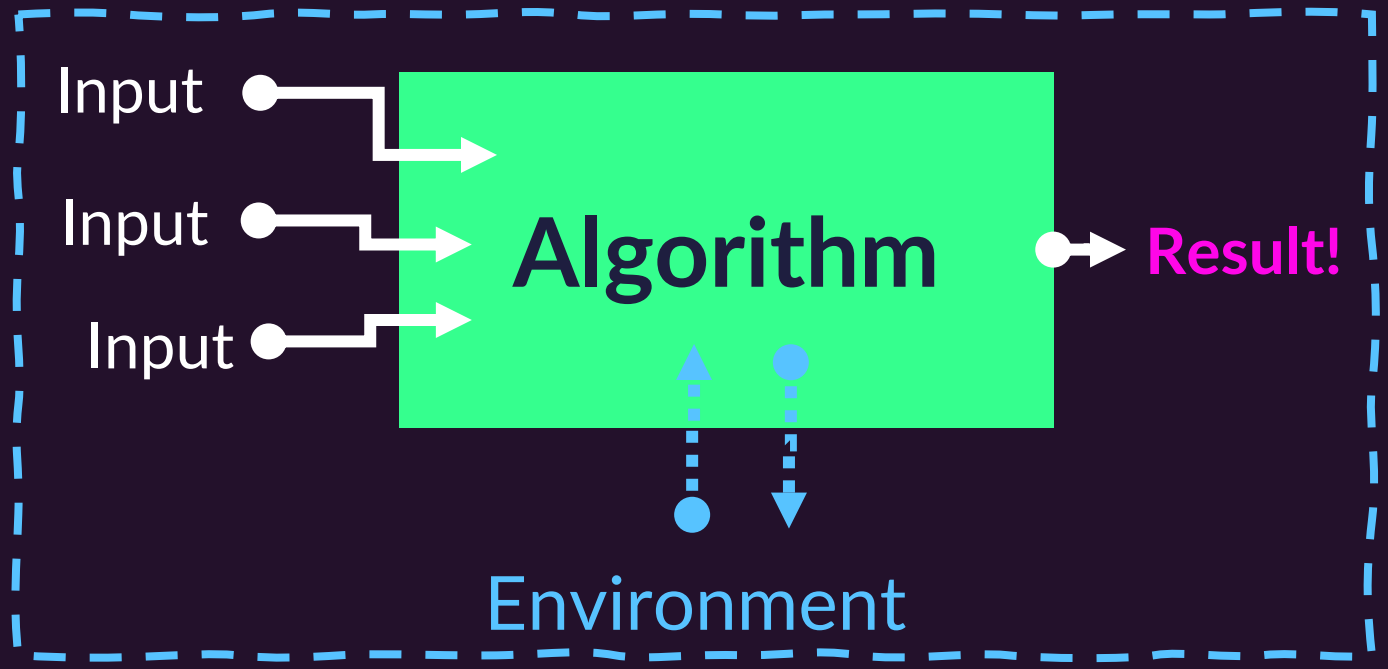
An algorithm **returns** some **result**

An algorithm *may* be influenced by its **environment** and it *may* produce side-effects which influence its environment.

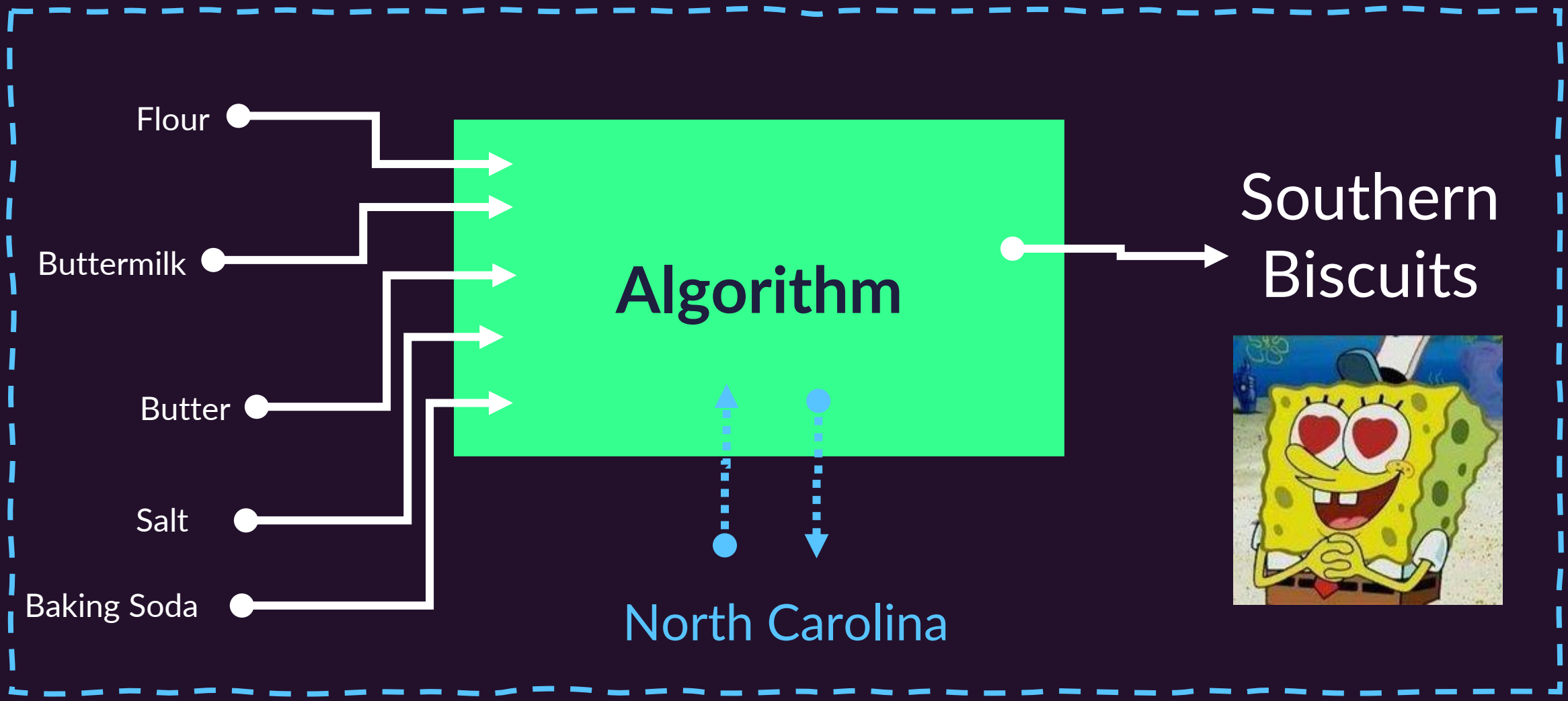


Critical thinking...

- Think about where this pattern exists in a field you're interested in?
- What are the inputs?
- What is the algorithm?
- What is the intended result?
- Do conditions of an "environment" influence the algorithm?
- Does the algorithm produce any side-effects on the "environment"?



The Fundamental Pattern



What's next?

Homework - By tomorrow night!

- Read Syllabus and Support on Course Page
- Respond to Lesson 00 (LS00) Gradescope Questions
  - Due 8/20 at 11:59pm
- **Update your computer's operating system!**
  - Instructions are posted under the Logistics section.
- Install required course software.
  - Instructions are posted under the Logistics Section

Office Hours for Help Getting Started

- See Support > Office Hours > Course Care
  - Instructions on how to register
- Open House Tomorrow (Friday 8/20) from **12pm - 5pm**
  - **Remote? Get help via course.care.**
  - Get help installing course software!
- Introduce yourself and meet some great people on the team!

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 the videos, etc.
- Feedback form is linked in the footer of the course site
- **Please give us feedback while we have time to act on it!**
- I'll also take class wide feedback through the semester.

Our Fall Goal: Positive Vibes!

- Fall 2021 is set to be a great, optimistic, high-energy return to form!
  - ... unlike the 18 months behind us.

- Please bring positive energy and spread love among peers in this course, when interacting with the COMP110 TA team, and I.

- If you have negative experiences you need to air and that need to be heard, please direct those toward my **Grievances Form**:
  - https://21f.comp110.com/resources/syllabus.html#feedback
  - Also linked to in the footer of every page on the course site.

- If you share your grievances through this form, I will receive them directly. If you would like a response, I will follow-up with you directly. You can also submit anonymously.
  - For the general mental health of your peers and your TAs, please don't burden them with grievances over experiences they do not have any ability to change or make right. Lobby them with me.
  - If a peer in COMP110 is burdening you, or a group, with grievances beyond your control. Please encourage them to channel their energy in this direction rather than yours.

Connecting on Social Media

- YouTube: Where lectures are! ***Subscribe!***
- Twitter: **@KrisJordan**
- Insta: **@therealkrisjordan**
- Finsta: **@ada_dog_omg**