

# Data & Expressions

*Week 1*

# Introduction



- 🖐️ Hi, I'm **Kevin Miao**!
- **Master's in Electrical Engineering & Computer Science**
- *Research Focus:* Explainable Deep Learning & Computer Vision
- *Fun fact:* I am an international student from the Netherlands! 🇳🇱
- *Other courses:* Developed & currently teaching DS198, Data Discovery Research Seminar, in tandem!
- **Email me anytime:** [kevinmiao@cs.berkeley.edu](mailto:kevinmiao@cs.berkeley.edu)



# Thanks, staff!



**Aarushi**

GSI

**Senior**

*Data Science and  
Human Rights Minor*

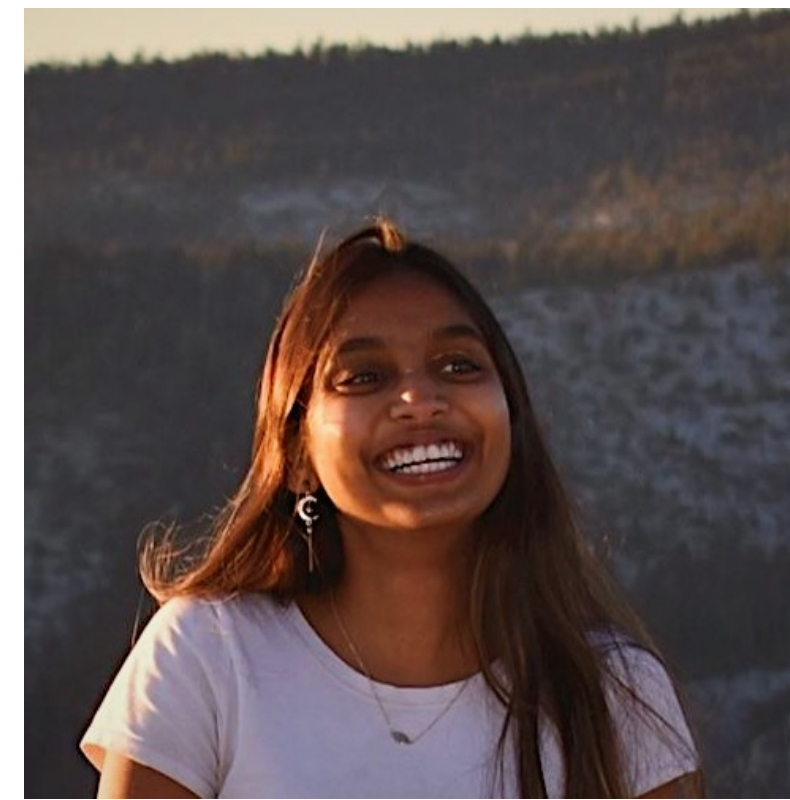


**Raymond**

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**Junior**

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**Kanchana**

Tutor

**Junior**

*Data Science and  
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**Rithvik**

Tutor

**Junior**

*Data Science*

# Say 'hi' to thy neighbor

Alright, now it's your turn. **In groups of 4, please ...**

- **turn to your neighbors** (Breakout room if joining hybrid)
- **introduce yourself:** Tell them who you are (name/major/hometown/favorite food/does pineapple belong on a pizza?)
- **discuss:** Browse the internet: Find an application of Data Science you all are excited about. Why?



# Etiquette & Expectations

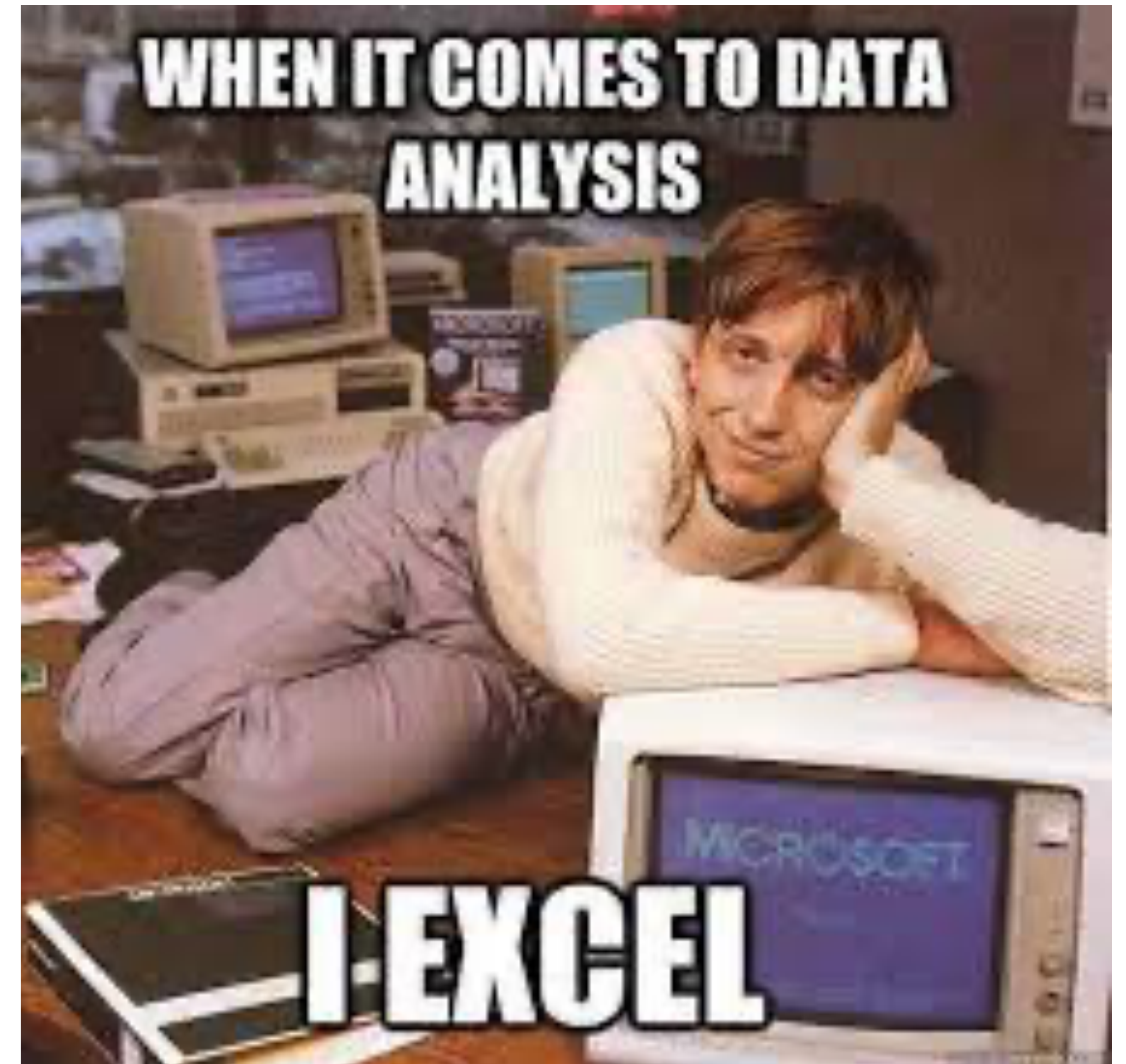
- Per campus COVID guidelines, keep your mask on during class.
- Drinking water is allowed. If you need to eat, please step outside of class.
- No distractions/texting/working on lab during the discussion portion
- Raise your hand if you have questions
- Listen to your classmates
- Treat each other with respect

# Today

- Introduction
- Announcements/Policies
- **Worksheet** What is Data Science?
- **Review** Expressions & Programming
- **Lab 1** Expressions

📦 Deliverables

1. Lab Checkoff

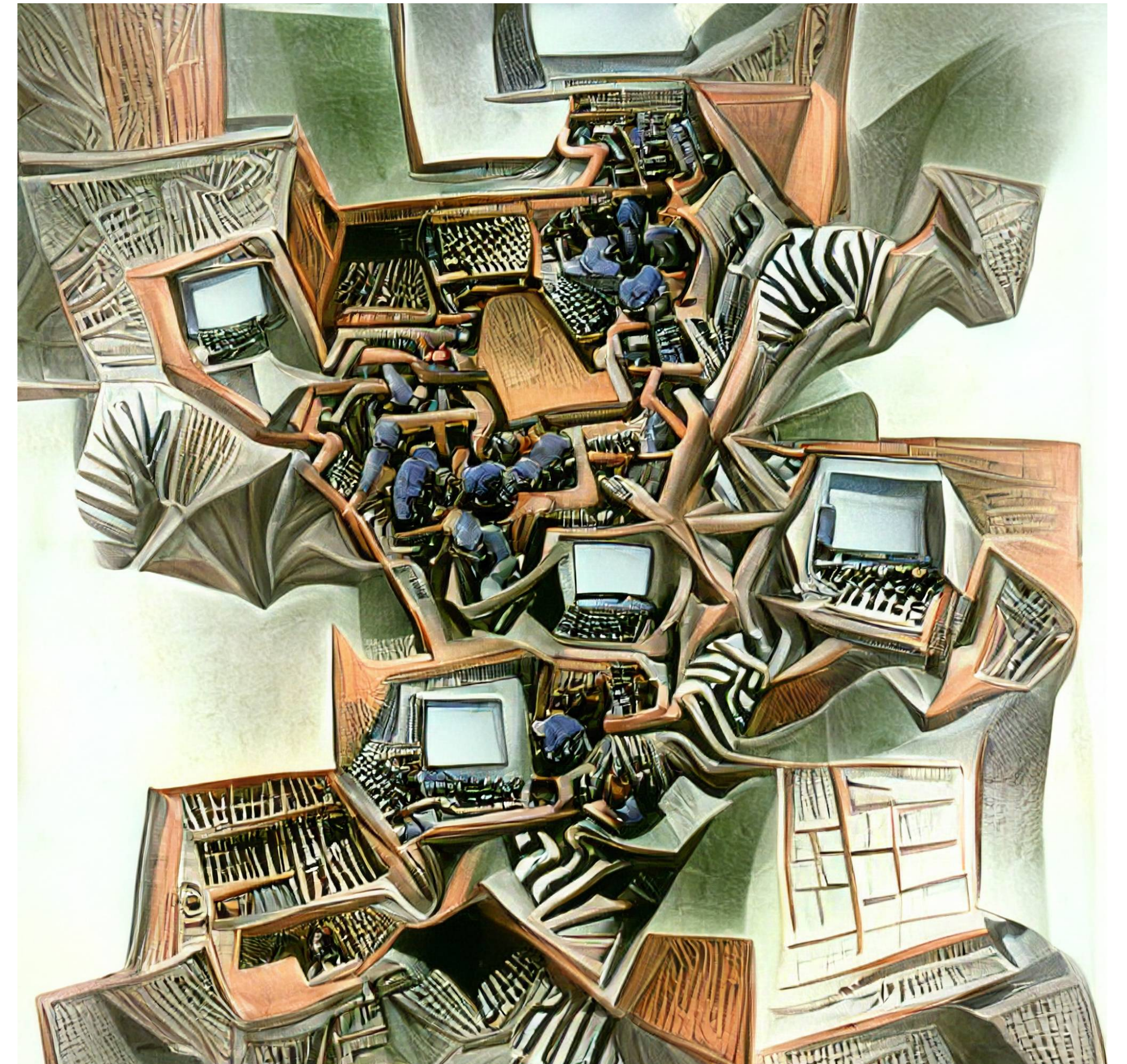


# Announcements & Policies



# Announcements & Policies

- All policies are accessible via [data8.org/policies.html](https://data8.org/policies.html)
  - You are required to attend at least 5 labs and today's lab
  - Labs are graded on accuracy. Complete by Friday 5pm.
  - Homeworks are released Friday, due Thursday.
  - **Midterm 1** will be held 3/11 @ 7-9 PM.
- Resources
  - Tutoring Sections
  - Ed
  - Office Hours
  - Email





# Announcements & Policies

- **Course Materials**
  - Course-wide: [data8.org](https://data8.org)
  - Section-specific: [kevin-miao.com](https://kevin-miao.com).
- **Platforms**
  - Jupyter: Assignments
  - Gradescope: Submit assignments & Graded Exams
  - Ed: Communication
  - Website: Schedule & Materials



# Worksheet

## *Data*



# Worksheet

**Q1** ) Which of the following numbers is the closest to the average size of all Berkeley classes in the 2020-2021 academic year?

30 40 50 60 70 80 90

# Worksheet

**Q2** ) In the 2020-2021 academic year, close to half of all undergraduate degrees at Berkeley were awarded to students in the 10 largest major programs. The top five (in decreasing order of number of degrees awarded) are L&S Computer Science, Economics, Data Science, EECS and Political Science. What are the next five? How might you figure this out?



# Worksheet

**Q3** ) “Life expectancy at birth” (LEB) measures roughly how many years a newborn baby is expected to live, and is a commonly used metric to quantify the health of a population. What two states would you expect to have the highest LEBs among all states in the US?

# Worksheet

**Q4.** Picking from the list of numbers below, fill in the numbers which you expect to be the closest to the LEB of the United States as well as the world.

68   70   72   74   76   78



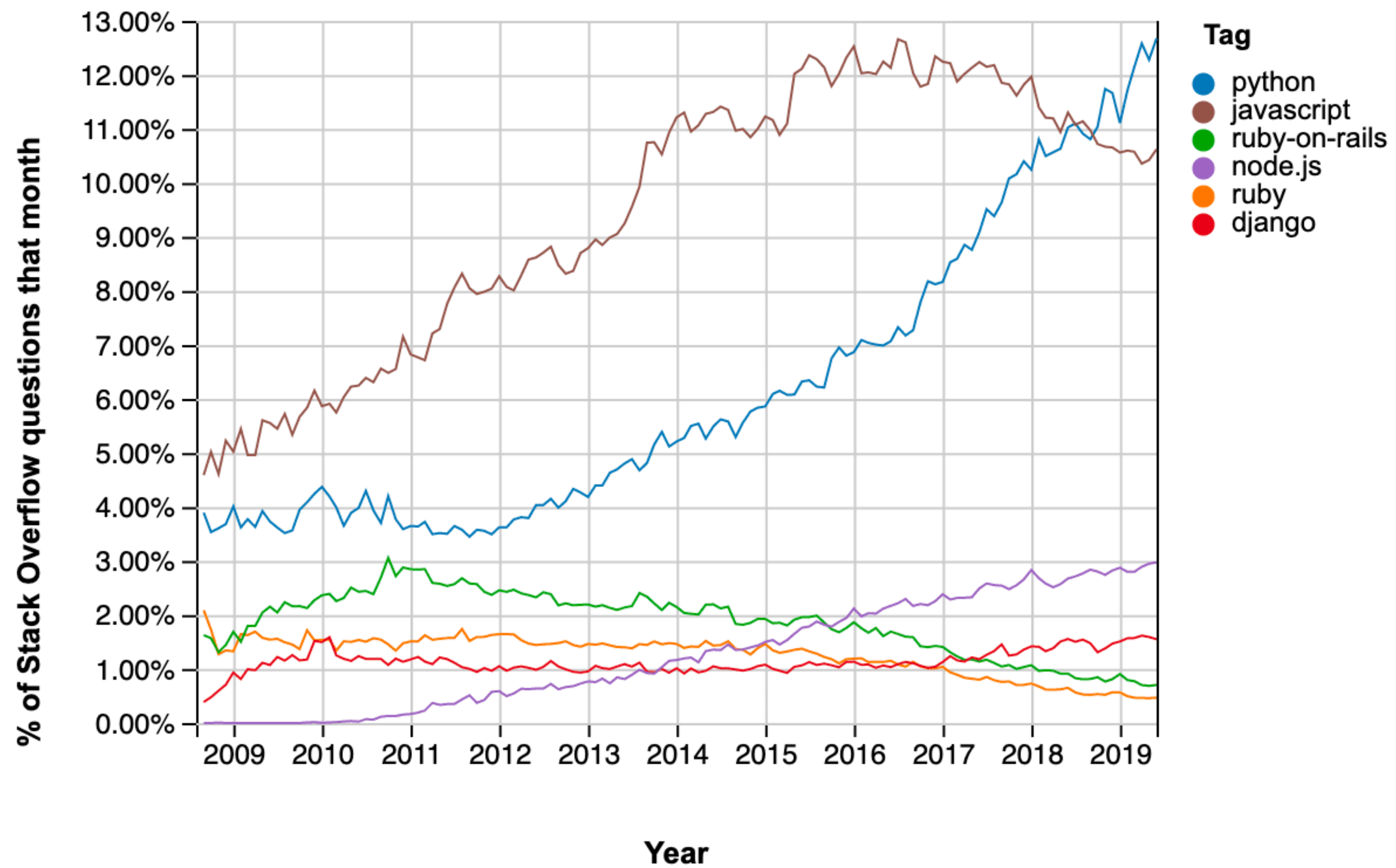
# Expressions & Programming

# Programming

- Python is a programming language written by Guido Van Rossum
- Easy & Lightweight because you can interact with it (interpreted)
- Supports multiple data types (learn more about this later)
- Used in scripts, interactive interpreter or **Jupyter Notebooks**
- Popular ML/DL Libraries exclusively run on Python
- Scalable

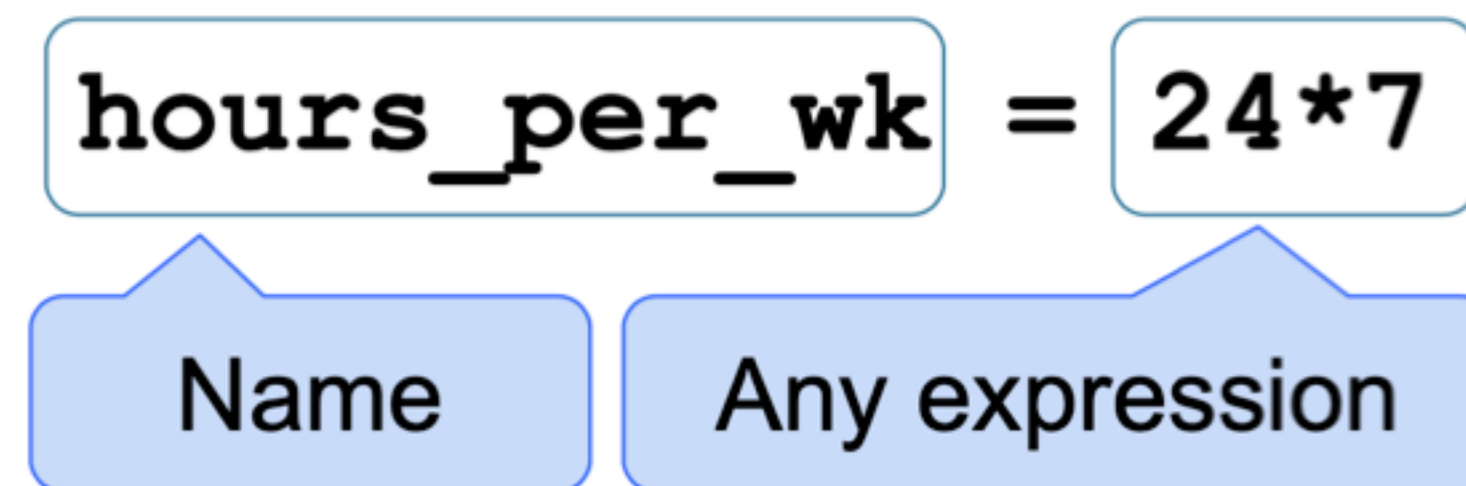






# Expressions

- An expression is a line of code (command) that you tell python to execute.
  - i.e. `5*6`, `900/10**2` or `print('Hello world')`
  - Like a calculator, a lot can go wrong (i.e. forgetting parentheses)
- An assignment statement is a special command that binds a **name** to that **expression**



# Lab 1

# *Expressions & Programming*

## Accessing lab 1:

- 1 - Browse to data8.org
- 2 - Click on 'Lab 01: Expressions'

## Deliverables:

- 1 - Lab Checkoff
- 2 - Submit lab.zip to Gradescope upon completion
- 3 - Complete lab-specific survey [tinyurl.com/welcome-form](https://tinyurl.com/welcome-form)

## Checking off

### Zoom

1. Join the 'Checkoff' room
2. Follow instructions

### In-person

1. Ask staff member to check you off
2. Follow instructions