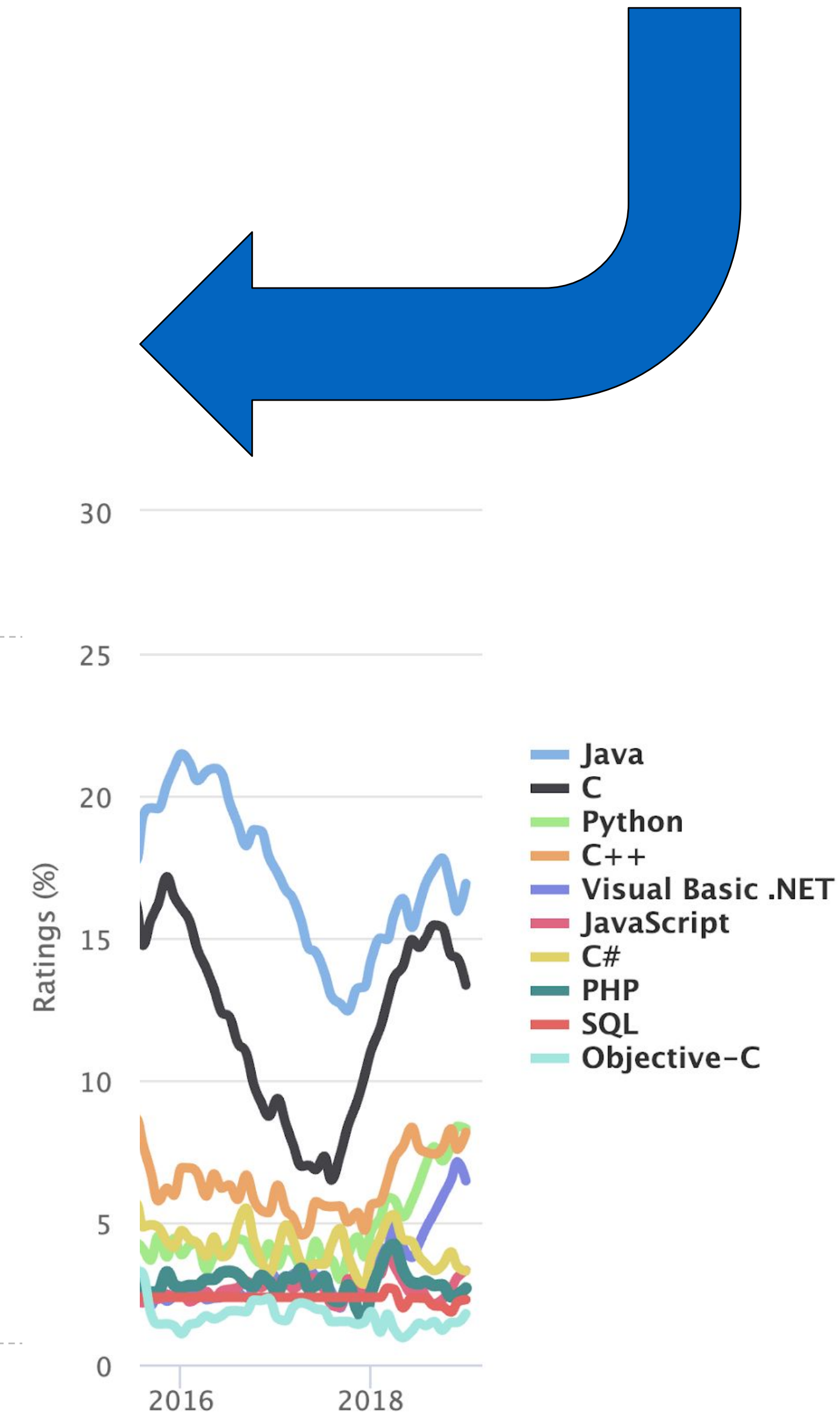


Python is TIOBE's programming language of the year 2025!

www.tiobe.com/tiobe-index

“The Python programming language has won the title “programming language of the year”! Python has received this title because it has gained most ranking points in 2025 if compared to all other languages. In 2018, the Python language won 3.62%, followed by Visual Basic .NET and Java. Python has now definitely become part of the big programming languages. For almost 20 years, C, C++ and Java are consistently in the top 3, far ahead of the rest of the pack. Python is joining these 3 languages now. **It is the most frequently taught first language at universities nowadays**, it is number one in the statistical domain, number one in AI programming, number one in scripting and number one in writing system tests. Besides this, Python is also leading in web programming and scientific computing (just to name some other domains).” **In summary, Python is everywhere.**



Acknowledgements

This material is an adaptation from CS61A material at UC Berkeley.

Credits to Professor John DeNero and the entire CS61A staff.

Parts of the Course

Lecture: Lecture videos will be recorded and posted on

Staff office hours: The most important part of this course

Online textbook: <http://composingprograms.com>

Optional Discussion sections: The most important part of this course

Weekly lab, homework assignments, three programming projects

Lots of optional special events to help you complete all this work

Everything is posted at cs7.emziniwecode.com

An Introduction to Programming & Computer Science

What is Computer Science?

The study of

What problems can be solved using computation,
How to solve those problems, and
What techniques lead to effective solutions

Creativity!

Systems

Artificial Intelligence

Graphics

Security

Networking

Programming Languages

Theory

Scientific Computing

...

Decision Making

Robotics

Machine Learning

...

Training Models

Classification

...

What is This Course About?

A course about managing complexity

Mastering abstraction

Programming paradigms

An introduction to programming

Full understanding of Python fundamentals

Combining multiple ideas in large projects

How computers interpret programming languages

A challenging course that will demand a lot of you



Hard

Fun
Worth it

Course Policies

Uncool

- You don't know that?
Sheesh! (rolls eyes)
- Elitism
- “Me first” attitude
- Making students feel
unwelcome

Learning

Community

Cool

- You having trouble?
Here, let me help!
- Supporting each other
- “We together” attitude
- Making students feel
welcome. We are a CS7 family!

Details...

<https://cs7.emziniwecode.com/about.html>

Collaboration

Asking questions is highly encouraged

- Discuss everything with each other; learn from your fellow students!
- Some projects can be completed with a partner
- Choose a partner from your discussion section

The limits of collaboration

- One simple rule: Don't share your code, except with your project partner
- Copying project solutions causes people to fail the course

Build good habits now

Improvements

Conversations with Emzini weCode

- We'll bring industry experts to share about various fields in tech and beyond!

We will provide you with EPA = Effort, Participation, Altruism extra credit (confidential)

- Effort = {Office hours, doing every single lab, hw, reading Piazza pages, etc.}
- Participation = {Raising hand in discussion, asking Piazza questions, etc.}
- Altruism = {Helping other students in lab, answering Piazza or Office Hrs questions}
- This can help boost you over a grade boundary if you're close to one

You will be able to clobber your midterms with a better performance on your final

If your % of points on your final is higher than either midterm, we map that % to your midterm and that's your new midterm!
E.g., Final 20/40, Midterm 10/40. New midterm:20/40

Announcements

- “Optional” Discussion this week
- Lab this week for setting up your workspace
- Visit the course website and browse through