

CSCI 334: Principles of Programming Languages

Lecture 1

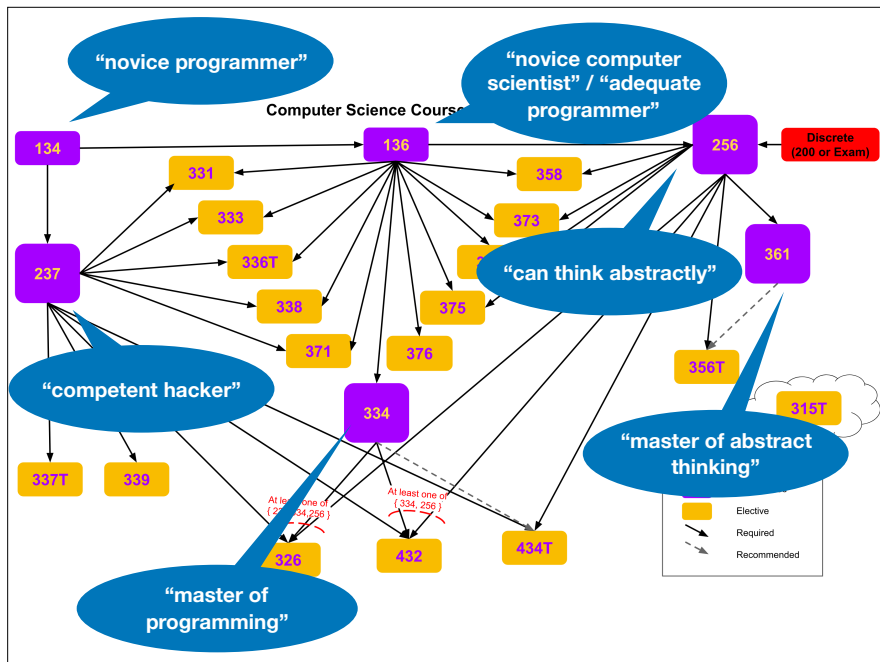
What this course is about

Instructor: Dan Barowy

Williams

Class outcomes

1. Speak the "language of languages"
 - a. evaluate fitness of language for purpose
 - b. rapidly learn new languages
2. Add tools to your mental toolbox
 - a. including techniques for clear thinking
 - b. become a (much) better programmer



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 - b. become a (much) better programmer
- 3. Be your favorite class!**

Feedback

1. Optional feedback on assignments (for credit)
2. Optional, anonymous feedback form on course website
3. Periodic, in-class anonymous feedback

Swell



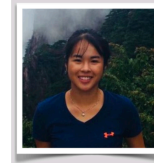
Kiersten Campbell, Williams '21
Contributions: Parser, user study



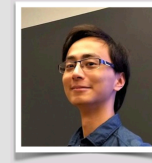
Quan Do, Williams '19
Contributions: UI, SWELL, curricula, user study



Emmie Hine, Williams '20
Contributions: Evaluator



Vy Nguyen, Williams '21
Contributions: UI



Dzung Pham, Williams '20
Contributions: UI, evaluator, parser, user study



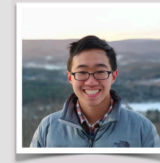
Lily Shao, Williams '20
Contributions: Parser error handling



Alex Taylor, Williams '20
Contributions: UI



Julia Tucher, Williams '21
Contributions: UI, evaluator



Peter Zhao, Williams '21
Contributions: UI, evaluator

How do you know when you are done writing a program?

How do you know when you are done assembling a wristwatch?



Sketches

Activity (15 minutes):

1. Split up into groups of 3-4 people you (mostly) don't know.
2. Each group should choose a different sketch.
3. What do you think is the purpose of each drawing?
4. What differences or similarities do you see between this and the final art? (please **do mention** the obvious things!)



Activity (15 minutes):

Demo

Context

The painting was inspired by the artist's sister, who hallucinated seeing their deceased parents in the house.

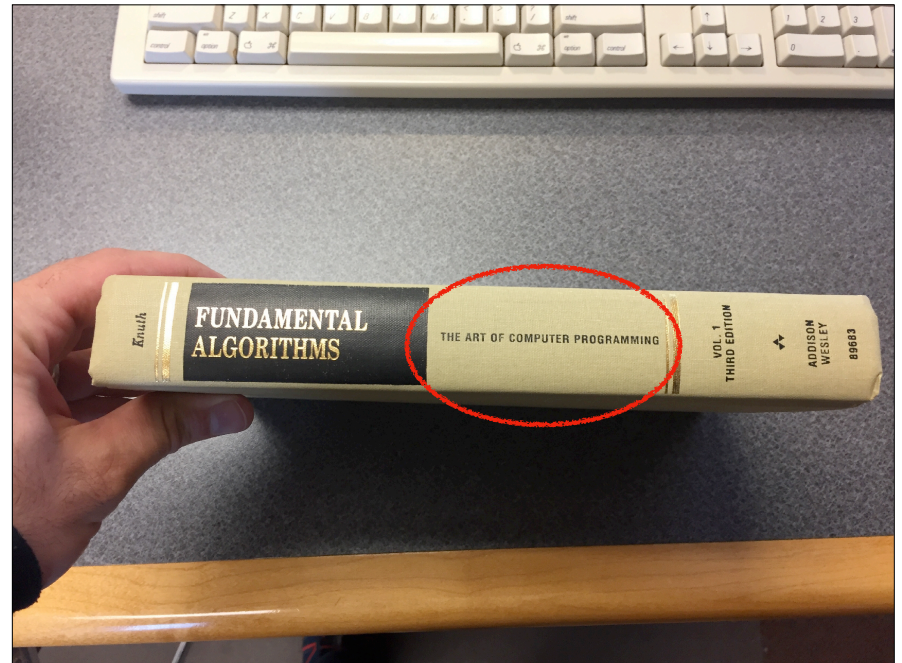
"I wanted to say something about how life just simply evaporates...When you are young, you always think things are ahead of you. You get older you realize that there's not so much ahead; it's all in the past. I wanted to capture that."

Do you think the artist's message was adequately conveyed?

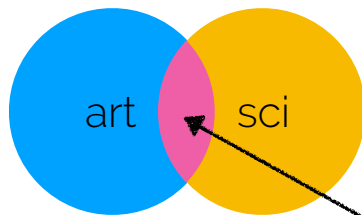
Is the artistic process primarily aesthetic or primarily technical?

I think both processes are essentially the same.

aesthetic
+
technical

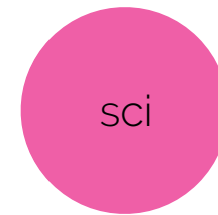


If programming were just science,
we wouldn't have to do it anymore.



most real programming is here

The goal of PL research is generally to
make programming a science:



Me: Yes! In the meantime, recognize the
importance of the "non-science" part.

Which watch would you rather buy?



Administrivia

Syllabus

Assignments

1. Weekly reading responses, due Wednesday by 10pm (~1 hour)
2. Weekly problem sets, due Sunday by 11:59pm (anywhere from 2-10 hours)

Next Assignment

Reading response, due Monday (2/10) by 11:59pm
(see course webpage)

Books on reserve in Schow

Help



Kiersten



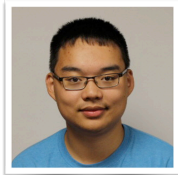
Lily



Margaret



Colin



Markus

Anonymous grading
(suggested by UNiCS)

Homework late policy

Homework resubmit policy

Honor Code

Github

Course Organization

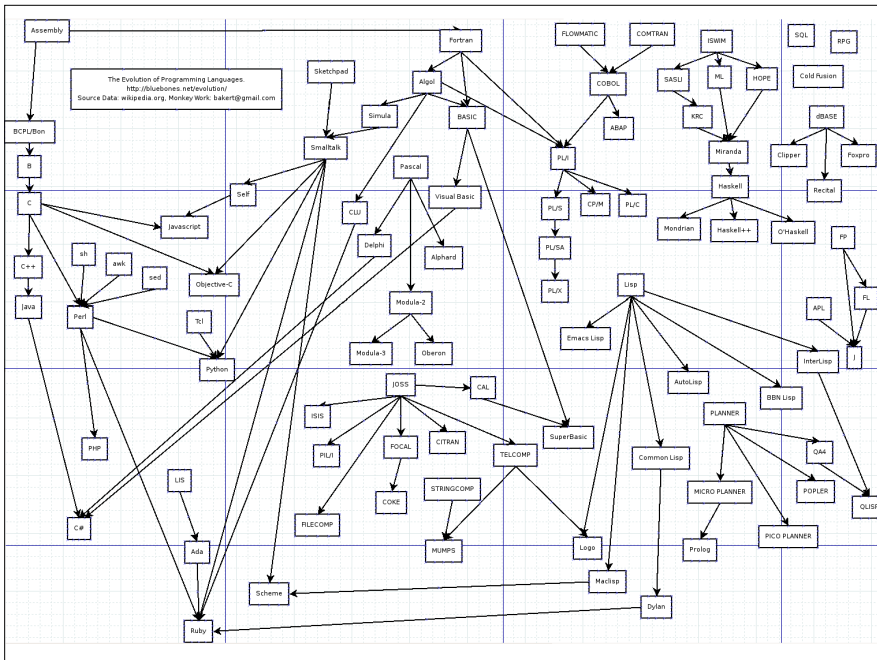
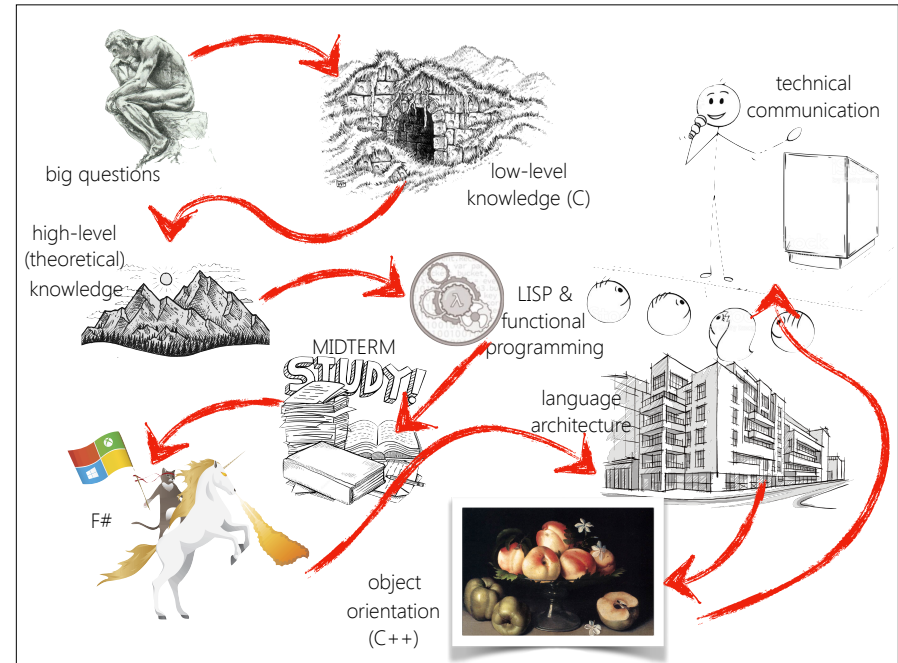
First half

- theoretical foundations
- common elements of languages
- functional vs. imperative languages
- new ways of thinking

Course Organization

Second half

- implementation techniques
- object oriented programming
- projects!



Recap & Next Class

Today we covered:

- Some deep questions
- Course structure

Next class:

Boxes and arrows model