

< Introduction, TAs >

What is 357 about?

"Numerical methods"

- [Numerical? → To do with numbers (in this case, lots of them.)
Methods → Fun/interesting things to do (with numbers)

So... when do computers work on numbers?

→ All. The. Time.

Squiggles demo

What makes this worth studying?

- The answer is never right.
 - So how wrong is it?
 - Error analysis
- Computers are fast, but...
 - Example: 2000^2 linear system
not that big!
how long for 4000^2 ?
 - Efficiency, Complexity
- Inspiration for own work with numbers
 - two squiggles with different lengths?
"no problem, I'll use piecewise polynomial interpolation."

Image compression demo

Stuff to mention

- books
 - what, price
- class web page
 - bit.ly/cc357-sl4
 - do not (yet) bookmark redir URLs
 - web paint → code subm. occasionally time out
 - no grade overview yet.
- instant message feature
- initial contact: linear algebra pre-quiz
 - please take before lecture 2
 - preliminary results
 - will discuss in lec 2
- usually, video + short graded quiz before each class posted by midnight the day before
- for lec 2, two things:
 - grading policies intro + quiz
 - starts *tonight* for Thu
- HWO, due next Tue (on web tonight)

- work due + exams generally on Tue
- more material: recordings, notes, demos, scribble PDFs
- Piazza
 - make sure to join
 - questions
 - answer each other
 - we'll answer, too - after a while
 - class announcements
- Python

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Open Free cross-platform
mature
modular
widely used

numpy

- Virtual machine

Python demo

Numpy demo