Class Philosophy

- Don’t be afraid to ask questions – anytime
  - You can interrupt me anytime
- We are a pro-device class
  - You’re all adults, you know how to pay attention
- Think flexibly
  - Computational simulations of biology is taking two ends of a spectrum
- Don’t be afraid to ask questions
  - Seriously. This is not an easy topic. We are covering topics from Bioengineering, Biochemistry, CS, Applied Math, Informatics.

tinyurl.com/y678pobx
Logistics

- 1 unit of research credit from biochemistry department
- Graded on credit/no credit scale
  - Need to show effort was put into work
  - Attend at least 70% of classes unless excused
  - Put work into assignments
- Most likely a “final” group presentation
- Some weeks will have weekly assignments

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What is Computer Science?
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Geometry

Geo – Earth
Metry – Measure
What is the essence of Computer Science?
The formalized of processes that interact with data
Programming Languages

- Allows us to tell a computer exactly what to do
  - Computers are stupid
  - They only do what you tell them
- **Source Code**: Human readable text file, easily translated into something machines can understand
- **Programming languages** are a standardization of processes
Monte Carlo $\pi$
Simulations
What is an operating system?
Operating Systems

- What makes your computer run
  - The tools that allow your computer system to operate
What is the most common operating system in the world?
Personal Computers

- Windows: 91.51%
- Mac: 6.12%
- Linux: 2.36%
- Other: 0%
Linux is an “operating system” like Windows or Mac
  ○ Designed with programmers in mind

- Comes in many different distributions (distros)
  ○ Debian, Ubuntu, Arch, Fedora, Gentoo

- Open Source
  ○ Free to use
  ○ Anyone can view source code and make changes
  ○ Made by the community

- Rosetta is mainly designed to work on Linux
Weekly Assignments

- Add profile picture to Zulip
- Create GitHub account
- Install “git”
  - Windows: git bash
  - Linux: comes with git
  - Mac: can be installed
- Watch for updates on Zulip!