

# Speak the computer language: Python



A summer coding camp

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# Top 10 reasons to learn Python in 2020

- Data Science
- Machine Learning
- Web Development
- Simplicity
- Massive Community
- Libraries and Frameworks
- Automation
- Multipurpose
- IoT (Embedded Computing)
- Jobs and Growth

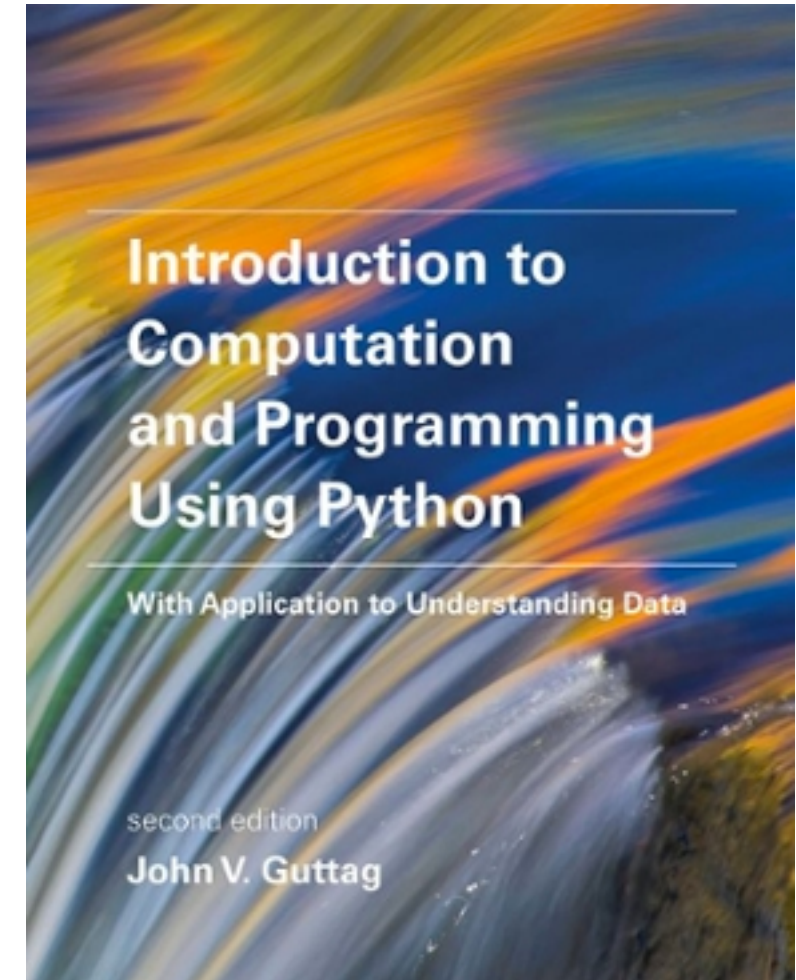


# Pre-requisites and logistics

- Little or no prior programming experiences required
- Understand basic algebra and equivalent math concepts
- A Mac or PC installed with Linux, macOS or Windows
- An email account (prefer gmail) to receive homework and other assignments
- Sign up for Remind/Teams so students can ask questions in the online space
- Parents can join wechat group to discuss course related topics

# Syllabus (8-10 weeks)

- What is computation?
- Branching and Iteration
- String Manipulation, Guess and Check
- Decomposition, Abstractions, Functions
- Tuples, Lists, Aliasing, Mutability, Cloning
- Recursion, Dictionaries
- Testing, Debugging, Exceptions, Assertions
- Object Oriented Programming, Classes and Inheritance



# Install Python and IDE:



python

- How to download python and install it on your pc or mac:
- <https://www.python.org/downloads/>
- Optional: IDE: vscode
- <https://code.visualstudio.com/Download>
- Python as your calculator
  - Start interactive command shell for python:



# About the Instructor:

- Software Engineer @ Garmin
  - First Lego League Coach @ Hope Chinese School
  - Adjunct Faculty @ CGCC's Physical Science and Engineering Dept.
  - M.S. in ECSE Dept., RPI
  - Email: [ling.chao@gmail.com](mailto:ling.chao@gmail.com)
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- Interested parents can contact me for more information on this summer camp