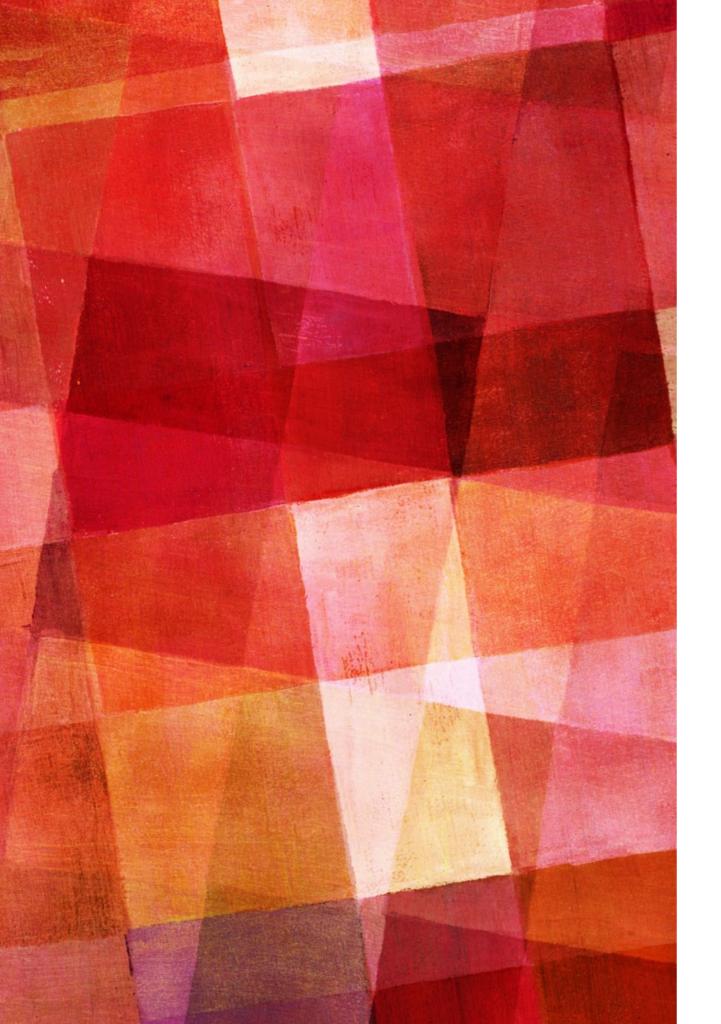


# PYTHON LEARNING RESOURCES

Theory and Practice



# THREE MAIN PARTS

- ➤ Python syntax
- ➤ Algorithms
- ➤ Practice

#### LEARNING PYTHON SYNTAX

- edX.org and MIT Open Courseware, "Introduction to Computer Science and Programming Using Python" by MIT
  - https://www.edx.org/course/introduction-computer-science-mitx-6-00-1x-10
  - https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-0001-introduction-to-computer-science-and-programming-in-python-fall-2016/
- ➤ Official documentation: <a href="https://docs.python.org">https://docs.python.org</a>
- ➤ Free books: <a href="http://pythonbooks.revolunet.com/">http://pythonbooks.revolunet.com/</a>
- ➤ Code visualizer: <a href="http://www.pythontutor.com/">http://www.pythontutor.com/</a>
- ➤ 30 Days of Code on HackerRank.com

## LEARNING ALGORITHMS AND PROBLEM SOLVING

- <u>coursera.org</u>: Algorithms Specialization by Stanford (in pseudocode; you can audit the courses for free!)
- ➤ Free book: Dasgupta, Papadimitriou, and Vazirani, Algorithms (in pseudocode)
- Practice & competitions: TopCoder, HackerRank, CodeForces

➤ Also: B. Miller & D. Ranum, Problem Solving with Algorithms and Data Structures using Python on <a href="http://pythonbooks.revolunet.com/">http://pythonbooks.revolunet.com/</a>

## **PRACTICE**

- ➤ Paid internships:
  - Outreachy for women
  - Google Summer of Code for students
- ➤ Open source ⊌ you are welcome!
  - ➤ Cadasta, Ceph, Debian, Fedora, GNOME, Mozilla, OpenStack, oVirt, QEMU, Wikimedia, ...
  - > Start by:
    - reading developer documentation
    - > joining the organization's communication channels
    - > solving "good-first-bugs" on bug tracker/GitHub issues

