



CS331 Data Structures and Algorithms

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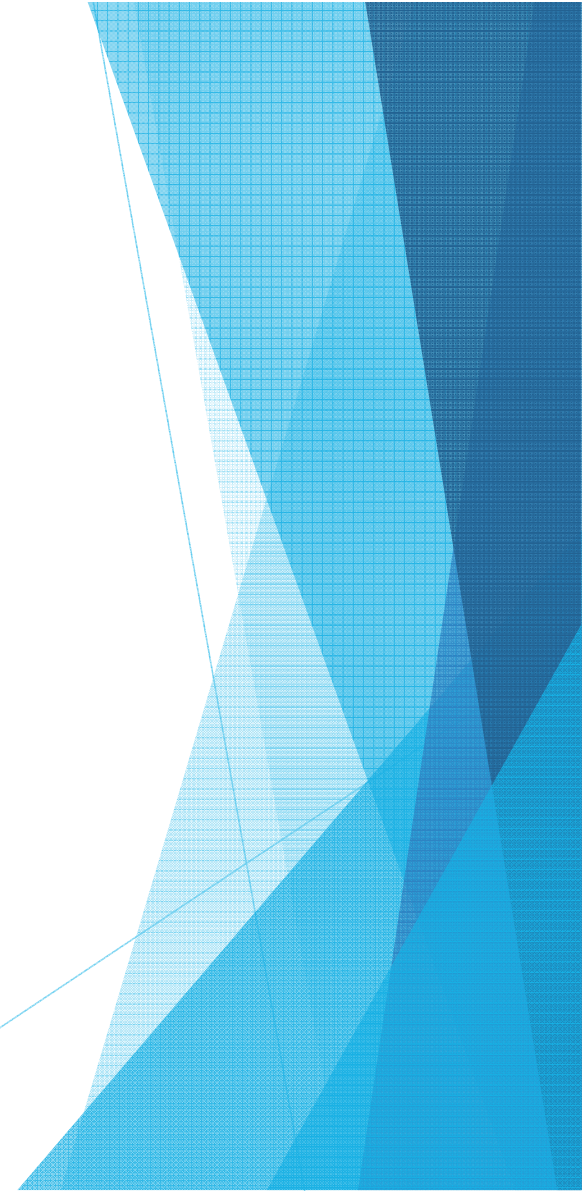
- ▶ Syllabus and Calendar
- ▶ Online Resources
- ▶ Development Environment

Data Structures

- ▶ How do we store, organize, and retrieve data on a computer?

& Algorithms

- ▶ How can we efficiently (in space/time) carry out some typical data processing operations?
- ▶ How do we analyze and describe their performance?



Prerequisites

I assume you are ...

- ▶ fluent in some programming language
- ▶ familiar with procedural & OO paradigms
- ▶ comfortable with development processes: compilation, debugging, testing

Python

- ▶ We'll use the Python programming language to explore data structures & algorithms
- ▶ Easy-to-learn, clean ("one obvious way to do" things), and popular language
- ▶ Ton of useful, powerful libraries

Jupyter Notebooks

In-browser Python development platform

- ▶ “Cells” can contain plain text, code, output (and more)
- ▶ All lecture notes, demos, and assignments will be distributed as notebook files
- ▶ You should install a notebook server locally for convenience and in-class work Install via Anaconda (with Python3) – see <http://jupyter.org/install.html>
- ▶ But all work must be tested and submitted in Mimir! (Lab 0 will go over this)

Class procedure

- ▶ Review reading before arriving to class
- ▶ Download starter notebooks before class
- ▶ Class will consist of lots of interactive demos (code along with me!)
- ▶ Completed notebooks are always posted