What Next?
Python, Java, CSE Courses

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UW CSE 160

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We want your feedback!

- Exams - Format/Timing/Policies?
- More Practice
  - Things we have done: links on course web page, Section examples that are meant to be similar to code you will need to write for the HW, CheckIns (HW3 & HW4), Going over HW in lecture.
  - Are there other types of practice you would like? what?
- Lecture Time/Activities
  - Gradescope in-class activities:
    Do you wish we had more of these? Done differently?
- Ed Board/Discord – Best ways to get help? Should we use Discord?

There is more to learn!

- You have come a long way from the first day of class!
  - But there is more to learn!
- Data analysis, data science, and data visualization
- Scaling up:
  - Larger and more complex programs
  - Algorithm selection
  - "Big data": out-of-memory data, parallel programming, …
- Ensuring correctness
  - Principled, systematic design, testing, and programming
  - Coding style
- Managing complexity
  - Programming tools: testing, version control, debugging, deployment
  - Graphical User Interfaces (GUIs), user interaction
  - Data structures and algorithms
  - Working in a team

More UW Computer Science Courses!!

You could take any of these now!

- [21wi & 21sp] CSE 163 Intermediate Data Programming
- [every quarter + summer] CSE 142, 143, 143x Programming in Java (143x only in fall)
- [21sp] CSE 154 Web Programming
- [21sp] CSE 416 Intro to Machine Learning (requires Stat 311/390)
- [every quarter] INFO/**STAT**/CSE 180 Intro to Data Science (some Math pre-req)

Require CSE 143:

- [every quarter] CSE 373 Data Structures & Algorithms (all year)
- [21sp] CSE 412 Intro to Data Visualization (or CSE 163)
- CSE 414 Databases
- CSE 374 Intermediate Programming Concepts & Tools

Require CSE 373:

- CSE 410 Computer Systems (Operating Systems & Architecture)
- CSE 413 Programming Languages and their Implementation
- CSE 415 Artificial Intelligence
- CSE 417 Algorithms and Complexity

More Info on UW CSE Courses!!

- Which Course should I take:
  - https://courses.cs.washington.edu/courses/cse160/20au/which-class/

- Intro CSE courses:
  - https://www.cs.washington.edu/academics/ugrad/nonmajor-options/intro-courses

More Python Resources

- More Python practice:
  - https://courses.cs.washington.edu/courses/cse160/20au/computing/
- Runestone – free e-books:
  - https://us.edstem.org/courses/2544/discussion/187811

Why the Python language?

	Python	Excel	MATLAB	R	C/C++	Java
Readable syntax	☺	☹	☹	☹	☹	☺
Easy to get started	☺	☺	😐	☹	☹	☹
Powerful libraries	☺	😐	☺	☺	😐	☺

Comparison of Python with Java

- Python is better for learning programming
- Python is better for small programs
- Java is better for large programs

Main difference: dynamic vs. static typing

- Dynamic typing (Python): put anything in any variable
- Static typing (Java):
  - Source code states the type of the variable
  - Cannot run code if any assignment might violate the type