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:

• Intro CSE courses:
More Python Resources

• More Python practice:

• Runestone – free e-books:
  – [https://us.edstem.org/courses/2544/discussion/187811](https://us.edstem.org/courses/2544/discussion/187811)
Why the Python language?

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<thead>
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<th>Feature</th>
<th>Python</th>
<th>Excel</th>
<th>MATLAB</th>
<th>R</th>
<th>C/C++</th>
<th>Java</th>
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<tbody>
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<td>Readable syntax</td>
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<td>🙁</td>
<td>🙁</td>
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<td>Easy to get started</td>
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<td>Powerful libraries</td>
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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