

To: Instructors of CS 4500
From: Jennifer Der and Timothy Haas
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We chose Python as our programming language for these exploratory assignments. The experience so far has been both challenging and rewarding. In these exploratory programming tasks, Python has been a quick tool to use and has little boilerplate code that needs to be written to have a working executable. However, we have also found that this ease of setup has come with difficulties in debugging and polishing our homework assignments. It was relatively easy to move between different operating systems, and running our executables on the server to test. One of the advantages to the popularity of Python is the quantity of both the information available to us and the libraries and tools we are able to use. Python has many JSON libraries each with its own differences. When it came to TCP we found that Python's built-in `serversocket` and `threading` libraries were more than capable of accomplishing the task at hand. We found the `Tkinter` Python GUI library to be easy to learn and implement. Python does not need to be compiled to run which makes debugging a much easier task. Sometimes though, debugging is made more difficult by the fact that Python is not explicitly typed. We have been able to subdue this strain by writing signatures in our docstrings for each function. Python's built-in libraries streamlined our development process because we were able to use these tools with relative confidence, and had access to documentation that helped us learn about all the different methods available to us. Using these built-in libraries also ensured that we did not need to install anything separately on the school's Linux server.