To: Software Development Instructors
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The further into the exploratory programming tasks we went, the less favorable we found Java as a programming language. Assignment B proceeded with ease. It took only a few minutes of googling to identify one JSON library that we quickly realized would not suffice for the task at hand, and only a few moments more to find one that would. When it came to GUIs, while we didn't *want* to use Swing, it seemed to be the only viable option after failed attempts at implementing JavaFX and Qt Jambi. The research and implementation process only became more complicated when we got to TCP connections and discovered that (it seems) there is no alternate Java TCP structure besides sockets. We were able to complete the assignment using a socket-based TCP connection, however we realize this may cause problems in the future because sockets are identified by the combination of the socket IP address and port number, and so multiple connections between the same client and server are indistinguishable/not uniquely identifiable. We are unsure of the implication of this fact but we predict this may be the problem with sockets.

Our original decision to choose Java stemmed from our familiarity with the language: we thought it would benefit us to focus on conceptual learning without worrying about learning new syntax. However, we also acknowledge that one of the goals of our CS education is to be able to carry conceptual lessons learned with us through any programming language and to gain skills that allow us to remain flexible across many languages and tasks. Therefore, we are now considering switching languages after making the following observations:

1. There is no perfect programming language. There will always be a point in any language that will require additional research and effort to work around a flaw in the structure of the language.
2. Java does not feel like the best option but there are enough resources online to figure out how to do what needs to be done in Java even if it is not the cleanest/best language to proceed in.

Therefore, we are now in the process of researching other options but are still equally open to sticking with Java.