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COS301: Programming Languages — Semester Project, part 1

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My first choice of language is **Perl 6**.

My second choice of language is **COBOL**.

Perl 6 is my first choice of language for two main reasons. First, Perl 6 has strong built-in support for implementing other languages, and I would like to learn to use this: I would like to implement a document format that I have been developing, and I think that knowing Perl 6 Grammars could help me with that. While Perl 6 reportedly has issues with performance, and may not be an appropriate long-term choice for implementing the format, it seems like it would be excellent for rapid prototyping and iterative development of the format. Second, Perl 6 has a number of features that I have heard about, that seem to have a lot of "buzz", and that seem to have wide applicability and popular use, but that I don't have any significant experience with or understanding of the use of: multiple dispatch, promises, asynchronous I/O, polymorphism, functional programming, introspection, generic programming, meta-object programming, and macros. Because that would be a lot of things to learn in only a semester, I would presumably select a few areas to focus on.

My second language choice is COBOL, because it has a long history of being very capable for data processing work and file handling, and a lot of businesses seem to use it successfully. Because of that history of success with it, I think that it would be good to have experience with. (While C and Java have similar histories of successful use, I do not propose studying them as I have used them briefly.) I am also interested in learning about COBOL because, as a file processing and business language, it is quite different from the languages I have experience using. (Perl 6 is also quite different, because of its capacity for functional programming.)

For reference, the languages with which I have the most confidence and experience in are, in roughly descending order:

- Bash (along with PHP, which is a reasonably close second, I have by far the most confidence and experience in Bash, and generally find it enjoyable to use)
- PHP 5 (I used it a lot until I switched to writing most things in Bash)
- C (don't have a lot of experience with it, only having written small patches, but I've appreciated the readability of it in working with others' code)
- Python (All the apps I wrote in Python that I still use I have since re-written in Bash, and found it much more appropriate for them)
- C# (mostly from doing game programming in Unity using Microsoft Visual Studio for a class)
- Perl (used it for one tiny project about eight years ago, but don't remember anything about it really)
- Java (I don't really get it, and found it frustrating when I tried it)
- C++ (poked around briefly trying to patch a couple of apps in it, no real understanding)