**CEIS 420 Week 1 Homework**

In any software development environment, selecting the proper language to solve the business and technical issue(s) is essential. Assume you are hired as a software developer at ABC Company, and your company decides to build a new dynamic website to sell the company's new products. You are requested to write a report to evaluate different languages in website development.

Requirements:

1. Evaluate any three programming languages (such as Java, C#, JavaScript, Ruby, Python, and PHP, etc.) that are suitable in website development.
2. Write a short history of each evaluated programming language.
3. Evaluate the readability, writability, reliability, and cost of each programming language you choose, respectively.
4. This should be approximately 500 words.
5. Python
6. JavaScript
7. Java

Python is a very versatile language and has a good amount of assistance in the form of frameworks and the ease of use that is just built into the language. Starting out as a basic scripting language that was famously good at mathematics and general use, it didn’t take long before it was specialized in quite a few areas which lowered the barrier to entry due to ease of use and good documentation. Python running in the backend would of course require frameworks built for that language to run the actual web application, but those carry with them the same ease of use and good documentation of Python.

Next is JavaScript – the quintessential front-end language that couples with many back-end languages and is quite capable in its own right. Also designed as a scripting language, JS couples well with CSS and HTML in order to create beautiful works of art as well as cold and dry government websites easily.

Java I chose as a huge workhorse in the programming world, one of the older languages that is still in use today and still outperforming the newer languages. The drawback here is the time to learn the language itself – not simple to learn but quite ready to tackle any challenges this language is quite suitable for a back-end and works well with CSS and HTML as well as many other frameworks similar to how Python interacts with web dev. The biggest drawback is the documentation for Java – often as a single developer it would take references to official documentation (some of the dryest and most uninteresting strings of words I’ve ever seen) and quite a bit of third-party references and walkthroughs to make everything work.

Above all, Python will be the most readable and writable language here – the simplicity of design works well for simple applications as well as integrating with web frameworks, and the documentation provided gives a great breakdown without being super dry and difficult to work through as a single developer. JavaScript is kind of a middle-of-the-road language here, simply due to the fact that most use it as a front-end language. No shame there, it is one of the best of them with excellent integration with CSS and HTML, as well as most other back-end languages out there. I would say JS ties with Python in writability as another scripting language, with those being fairly simple but taking some skill in the language to read effectively. Java on the other hand will easily be the most efficient and reliable of these three languages, once you get Java successfully running it takes quite a bit of oopsies to knock it out of the running and completely fail a program. If I had the choice of a website, I would forgo the frameworks associated with the back-end language and run JS frameworks for all front-end operations and have a heavy hitter like Java as the back-end. The important thing though is getting them to interact properly and sometimes to get exactly what you want out of a program you need to make concessions and choose the language based on the end result you need.