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Programming Language Characteristics

In this paper I will go into detail on what readability, writability, and reliability are in terms of describing a programing language. The language I will choose to use in my examples will be Python because it is the language I personally am most familiar with. Another reason I will be using it is because it is one of the most popular known languages and is used in a wide set of disciplines. By definition, Python is a high level programming language created in the late 1980's and released to the public in 1991.

Readability- More often than not in a work environment you are not programming. You are reading other people's programs. This can be in the case of peer review/editing, and also seeing examples of how to implement a function. This is where readability comes into play. Readability is the level of how easy a program is able to be interpreted by a human. The further away from assembly language and closer to a natural language, the readability increases. For example, Python has fantastic readability as it is often used as an introductory level language for people learning to program for the first time. I believe Python does fall short in cases where a semicolon or line breaks can be used to separate lines of code.

Writability- As programmers and developers, eventually we will be constructing and forming our own lines of code. Writability is the ease at which programs can be created for a specific purpose and job. Many programs can solve the same problem but there are obvious choices at which languages are easier to implement. Python is a very fast language to write in as average Python scripts are much shorter on average compared to other languages. Where Python falls short on this is the importance of indentation and lack of bracket use. This can be difficult at times for beginners trying to understand how scope works and why it is important.

Reliability- Reliability sometimes can be the most important of all three depending on the circumstance. Reliability is defined by how often the program will reach the desired outcome and not stop working under special circumstances. Python is now going on its 28th year being available to the public. Over that time Python has undergone countless version updates and security patches. It is one of the older languages still used as much today. Massive companies such as YouTube, Netflix, and Google use Python. If they are able to rely on a language that heavily it must be very reliable.