Brian Farrell

**Category:**

This paper is an analysis paper on how different programming languages relates to code quality. It is a study that uses GitHub projects as data to analyze different aspects of code quality.

**Context:**

The paper explored if specific programming languages and specific types of languages affected the quality of the code written. They explored static versus dynamic programming languages, functional versus procedural languages, and languages that allow implicit type conversion versus languages that disallow it. They analyzed these different types of languages by analyzing the number of bugs each type produced, as well as the type of bug each type of language produced more or less of.

**Correctness:**

The paper is incorrect when it claims in table 3 that python disallows implicit type conversion. The python interpreter automatically converts data types to other data types when necessary. For example, python will automatically convert an int to a string when the programmer writes code to concatenate a string with an int.

**Contributions:**

The conclusion of this paper claims that four different types of programming languages are better than their counterpart. The first claim is that functional languages are better than procedural languages. The second claim is that languages that disallow implicit type conversion are better than languages that allow it. This claim is merely conjecture because of how they improperly defined python as not allowing implicit type conversion. They did not properly categorize the programming languages for this claim to be definitive. The third claim is that languages that use static typing is better than dynamic typing. The last claim is that languages which manage memory automatically are better than languages which have manual memory management. Overall, all these claims can be labeled as conjecture, rather than definitive. In the conclusion, the authors concede that there are too many dependent variables in this study to be able to definitively conclude that certain variables are better than others when it comes to programming languages.

**Clarity:**

The paper itself is not well written. It does do a good job explaining all the nuances of their experimental design and data collection. However, the paper contains multiple errors. Python is incorrectly labeled as not allowing implicit type conversion. Other languages are categorized into a specific type of language when they can be written in both ways. Despite these errors, the paper is easy to read and understand.