

- 1) List 3 features you would like to see in a new programming language. Try to have at least one be a feature that you don't currently see in a language. For each feature give a 1-2 sentence explanation.
  - a. **Syntax resembling English.** Similar to Python, syntax that reads like English makes code more accessible, especially to people who are not very familiar with the language. While this could potentially lead to longer code, tools like typesense in modern IDEs negate the extra time it might take to write.
  - b. **Automatic memory management / garbage collection.** Dynamically allocated memory without garbage collection, for example in C, can cause memory leaks. It is difficult to always be diligent about manually deleting objects in memory after they are no longer needed, garbage collection such as that in Python or JavaScript alleviates these concerns.
  - c. **Customizable global utility functions.** The language should include the option to make a special file for utility functions which a user wants to persist across all their projects. While this is possible in most languages by importing the file in the beginning, it is different in that this file automatically gets imported every time and the functions can be called without a prefix. There would also be automatic checks to prevent things like overwriting existing function names. Essentially this is a special form of a library.
  - d. **Executable in browser.** Javascript is extremely prominent because it is the only language that can be executed locally within web browsers. If another language could do this it would be very valuable.
  - e. **Strong community support.** The best languages remain prominent in part because of their support from the community. Developers are constantly building open source libraries and frameworks that find countless uses for millions of developers in hundreds of languages. A good language needs support and enthusiasm to be successful.
- 2) Write a program in the language of your choice to evaluate: 'a' + 5. Provide me with your finding.

Python3:

```
x = 'a'  
y = 5  
z = x+y
```

Output:

line 3, in <module>

z = x+y

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TypeError: can only concatenate str (not "int") to str