

# Quick Start

My program is executable from the command line. It takes a string as the command line argument and scrambles the words as the rules dictate. (Ex. `python gibgen.py This is a string`) I was unable to write it to accept a file argument. Between work and studying for my exam tomorrow, I simply ran out of time. I wish I could have added it, and for that I apologize.

I chose Python for this challenge. I do not have the opportunity to program in anything but Java very often. This is the first program I have actually written using Python. I decided that would make it extra challenging.

## Coding Questions

### Question 1: "How did you approach the problem?" (500 words or less)

The first step I took when approaching this problem was deciding the language to use. Java may have been the easiest choice, since I have the most experience in Java, but I decided on Python instead. I remembered reading about Python's ability to slice lists and strings, and I thought slicing would be useful for this assignment. I have also never written a complete program in Python, and I thought it would make the coding challenge even more interesting. The second step I took was deciding to go from broad to narrow when working through the problem. I wrote the program to deal with normal words, without punctuation, first before moving on to more specific cases, such as contractions, commas, end of a sentence punctuation, and numbers. I worked on a case-by-case basis with the punctuation. Being a beginner to Python, I am unsure on how to write a test class for my program. I tested my program by running it repeatedly with different input. There is probably a more efficient way to handle punctuation than the methods I chose, but what I did works well enough for now. With more time and Python resources, I am sure I could make it much better.

I think in hindsight I probably should have used Java for this challenge, simply because I am more experienced with it, but I have wanted to try out Python for a while now. The easiest way to learn a new language is by programming in it, and I feel like I have learned a great deal about using Python now.

### Question 2: "What was the most difficult aspect of the solution?" (500 words or less)

The most difficult aspect of the solution was figuring out how to check for all the punctuation. Scrambling the letters in the middle of the word was not difficult. I also did not have an issue with keeping the punctuation in its proper place. It was checking for all the punctuation that was difficult, and it was really more time-consuming than hard. I do not think I have ever really thought about exactly how much punctuation we use in writing until I had to account for each different type that might show up. I know I missed some. I know now that Python has a constant variable called `string.punctuation` that might have made checking easier, but by the time I read about it, it was too late to incorporate into my code. I am not entirely sure it would have made things more efficient, but I would have liked to try it. I ended up using several if else statements to look for the various punctuation and handling them through different helper methods. This made the code more verbose than I had hoped.

