[CMSC 455] Assignment #1: Interacting with Real-World APIs

Due: End of Day, September 10th, 2023

The goal of this assignment is to gain experience reading REST API documentation and writing client code to interact with non-trivial, industrial APIs. The context will be GitHub's REST APIs (`https://docs.github.com/en/free-pro-team@latest/rest`). Your task is to write REST client code in Python that when executed:

1. Your code lists the names of 10 public GitHub repositories in descending order of total number of stars, since the repository creation. Alongside each repository name your code prints out the total number of stars (e.g., `ansible/ansible, 50,751`)

2. For each of the 10 repositories, retrieve the text of a single recent issue that is labeled as "bug". Print the text of the issue. If there are no issue labeled as bug in the repo, print "none".

3. Note #1: You can use GraphQL or regular REST API calls.

4. Note #2: Make sure read about and use one of GitHub's authentication mechanism. Also, beware that GitHub may throttle you application if it begins to make too many calls in a period of time, returning status code 403. The best thing to do is to wait for 10 minutes if you get this status code and then try again.

5. Note #3: Your code may take some time to run. Make sure you allow enough time to complete the run.

Your output should look exactly like this (but with different repos and issues):

```
--------------------------------------------------
ansible/ansible, 50751
Bug Issue:
[BUG] Issue with module XYZ
...
--------------------------------------------------
tensorflow/tensorflow, 41428
Bug Issue:
none
--------------------------------------------------
...
<output for the other repositories>
...
--------------------------------------------------
```

Submit: Submit 1) ALL of the application code required to run your application; and 2) the output of your application (copied from the screen); as a single zip file via Canvas by the deadline.