**Assignment 5**

-REST Client (100 points)-

**Important: Students are supposed to do all the exercises and practices in the Module 8 and 9, prior to try this Assignment.**

**Assignment Submission Rules:**

1. **Detection of plagiarism will result in receiving the failing grade.**
2. After completion, students must submit the following three types of deliverables through D2L assignment box (previously Dropbox) by the deadline:
   1. **Your CODE (“.py”)** must be submitted in files separate from the report, so that I can compile and run it in my environment. It is better submitting a compressed project folder. Each function, method, class, and variable should be identified and their functions explained in comments.
   2. **Your CODE in document type:** All of your implementation must be converted into any of three format: “.txt”, “.doc or .docx”, or “.pdf”. You can simply copy and paste your CODE on “notepad” or “MS word”. The converted files must not be compressed and must be submitted separately and individually.
   3. **A REPORT FILE (MS word or pdf):** This text file should include i) A description of your solution; and ii) the output displayed when running your code. Your solutions description should include a synopsis of how your code is intended to work and the tests that you created to prove that it works as intended. The output can be a screen-shot from your computer.
   4. **Submission Example (only for Assignment 5):**
      1. Assignment folder: **Homework 5-Codes (zipped file)**
         1. Codes.zip (includes REST\_client.py)
      2. Assignment folder: **Homework 5-Codes in Document and Report**
         1. Rest\_client.txt
         2. Reports.docx
   5. **Failure to follow the rules will result in deducting points.**
3. It is much better to submit a partial/failed-attempt solution than none. Include the circumstances of the incompletion in your report.

**Problems:**

Develop a Python script that will get the current weather data for a particular zip code and then print out some of that data in a table. The site [OpenWeatherMap](http://openweathermap.org/) provides a simple REST API to get weather data. Use the zip code assigned below.

For the zip code 30144, the output would be:

Name: KSU

Current Temperature: 64.5 degrees Fahrenheit

Atmospheric Pressure: 992.52 hPa

Wind Speed 10.6 mph

Wind Direction 289.5

Time of Report 2017-03-10 11:13:24

To be able to carry out this assignment you will need to register for a free account with [OpenWeatherMap](http://openweathermap.org/). You will provide an **id** (username) when registering. Once you have registered, you will receive an **APIID**, essentially your password for using the service. After logging in, you will be able to find a tab named “API keys”. It will show you an assigned key.

The [current weather data API page](http://openweathermap.org/current) tells you how to create a request for the current weather at a particular zip code. Information on the page tells the structure of the data returned. The [How to start page](http://openweathermap.org/appid) tells how to include the APIID and id in a request. Unless you care to convert from Kelvin to degrees Fahrenheit and convert from kilometers per hour to miles per hour in your script, be sure to request ‘imperial’ units from the server.

The data you get back will be encoded as JSON. You will need to decode it to access the information contained in the response.

Use the datetime class in the datetime package from the standard library to convert the time stamp included in the data to readable form. The value included in the data is the number of seconds since the epoch (standard Unix timestamp). The displayed value above is the default display of a datetime object created from the raw timestamp.

**Script Structure Requirements**

**Please pay attention to these!** These particular requirements are included so that the instructor can test your script using the instructor’s account.

At the beginning of your script assign values to variables user\_id and user\_apiid. These will be strings with the values of your id and apiid. Do not include your id or your apiid values directly in your code, use the variables instead. When your program is tested, the instructor’s values will be substituted.

**Submitting the Assignment**

Erase the value of the variable user\_apiid before submitting your assignment. The value will be replaced for testing.