Assignment 03 – Using the Google APIs to access YouTube Data

For this assignment, you will access data from YouTube, which is owned by Google. The Google APIs are described at this site: https://console.developers.google.com/apis/library
You will use the YouTube Data API. The PowerPoint presentation YouTube_API.pptx will walk you through getting set up to use the API.

Google APIs are easy to use and there is a lot of support for access using different languages. You should explore this site: https://developers.google.com/api-client-library/
For this assignment, you can start with the example provided, which is in Python, although you may use another language if you prefer.

ASSIGNMENT:

- Sign up for a google developer account. See the PowerPoint presentation PowerPoint presentation YouTube_API.pptx
- Write a program (or modify the given Python program) to retrieve some data from the YouTube API, and do some processing on that data, as outlined in the program specifications.
- ***Your program must follow the specifications and the programming guidelines provided below.***
- Write a one-page report describing your program: purpose, input, output, what it does, etc. The report should be submitted in .pdf or Word format, in a document **labeled with your last name**, eg: Dugas_HW3_Report.pdf.
- Zip your report, code, .csv file, and a **screen shot of any output** into a zip (compressed) file that is labeled with your last name, eg: Dugas_HW3.zip, and submit in Canvas.

PROGRAM SPECIFICATIONS:

NOTE: All programming for this assignment -- data search/retrieval and processing/analysis -- must be accomplished through a single program. Do not write two separate programs.

The program must run in a terminal window. Prompt the user for a search term and a maximum number of results.

Use the search term and max to do a YouTube search. Write the results to a .csv file that will remain in existence when the program is completed. The first row of the .csv file should be a header line that identifies each output field.

Print the search term, search max, and results of your analysis to the console.

Perform the analysis described below on the results of your search, and print the results to the console. Be sure to include a header to describe each set of results.

Analysis:
List the rank (1 to 5), the title, id, and views for the top 5 videos with the highest views.
List the rank (1 to 5), the title, id, and percentage of likes for the top 5 videos with the highest like percentage (like count / view count)

List the rank (1 to 5), the title, id, and percentage of dislikes for the top 5 videos with the highest dislike percentage (dislike count / view count)

PROGRAM GUIDELINES:

You may incorporate materials provided by the instructor, although you must add your own original content as well. Your grade will be based on your original content, so be sure and add significantly to what is provided.

Programs will be screened for plagiarism. If you "borrow" code, be sure to document the details of the source; otherwise it will be considered plagiarism and result in a zero grade for the assignment. Borrowed code will not count toward your grade, only original code will be considered.

Programming can be done in a variety of languages.   Programs should employ good programming practices. An example is the use of descriptive variable and function names.

Annotation and Comments: ***IMPORTANT***

- Program header must include **your** name and assignment information (use comments).
- Comments must also be used at the beginning of the program to give an overall description of the purpose of the program.
- Comments must also include detailed running instructions to run in a terminal window.
- Comments should also be used throughout the code to explain what it is doing. It should be possible to re-create your program based on the comments alone. Poorly commented programs will receive poor grades.

Note for students traveling outside of the US:

Social media sites are sometimes blocked outside of the US. To get around this, you can use a VPN, either a commercial one or Stevens's VPN. For Stevens: IT Service Desk / Search Knowledge Base / Network / VPN