Programming Task

Software Engineer - September 2022

Primary Objective:

Create a program that takes in a command line argument.

Description:

The program will query Google with the argument and store the search results from the first page as a JSON file in a directory called **database**.

Each query will create its own JSON file in the **database** directory.

Each JSON file will contain the following metadata about the search results:

- The number of results
- The number of results that are video links
- The number of results that are social media links (Links to twitter.com, facebook.com, instagram.com, linkedln.com, Reddit.com)
- Time taken for the response

Each JSON file will also contain the list of responses **grouped by category** (Website, Social Media, Video):

- All responses will require the Title of the response and the URL of the response
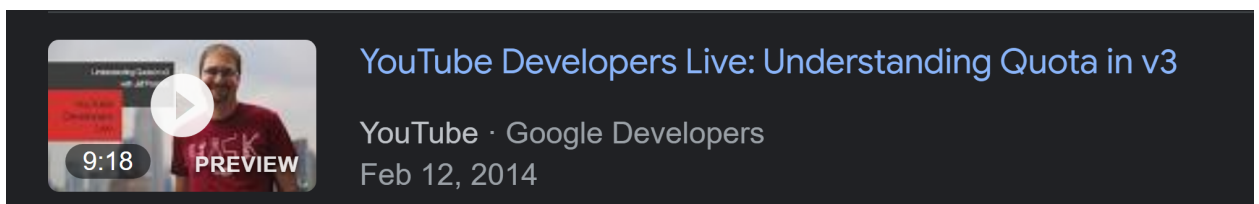

Title: YouTube Data API (v3) - Quota Calculator - Google Developers
URL: https://developers.google.com/youtube/v3/determine_quota_cost

- Video URLs will require the duration of the video in seconds

Duration: 558 seconds

Each category of results will be further **grouped by the Website URL** and the **Website groups** are to be **sorted alphabetically.** An example JSON structure would look like this:

```json
{
  "q": "youtube api pricing",
  "timeTakenInMs": 950,
  "pageOneResultCount": 50,
  "pageOneVideoResultCount": 4,
  "pageOneSocialMediaResultCount": 0,
  "results": {
    "Social Media": [],
    "Webpages": [
      {
        "Website": "https://developers.google.com",
        "results": [
          {
            "Title": "YouTube Data API (v3) - Quota Calculator - Google Developers",
            "URL": "https://developers.google.com/youtube/v3/determine_quota_cost"
          }
        ]
      }
    ],
    "Videos": [
      {
        "Website": "https://www.youtube.com",
        "results": [
          {
            "DurationInSeconds": 558,
            "Title": "YouTube Developers Live: Understanding Quota in v3",
            "URL": "https://www.youtube.com/watch?v=JNEJPffln1k"
          }
        ]
      }
    ]
  }
}
```