

Assignment #4

General Instructions:

1. Use Anaconda Python 3.7
 - <https://www.anaconda.com/distribution/>
2. All of your source code must be clearly documented and functional;
ZERO credit will be given to the submission that is spaghetti code.
3. Submit your **IPYNB** script, your **HTML** document for your **IPYNB** script and live video of your run that has your code and your output.

Requirements:

Use **Python** 3.7 to implement the following features

- 1) Use **Python/GitHub API** to retrieve information of the past **2 years** for the following repositories:
 - i. <https://github.com/angular/angular>
 - ii. <https://github.com/angular/material>
 - iii. <https://github.com/angular/angular-cli>
 - iv. <https://github.com/SebastianM/angular-google-maps>
 - v. <https://github.com/d3/d3>
- 2) A Line Chart to plot the issues for every Repo
- 3) A Bar Chart to plot the issues created for every month for every Repo
- 4) A Bar Chart to plot the forks for every Repo
- 5) A Bar Chart to plot the issues closed for every week for every Repo
- 6) A Stacked-Bar Chart to plot the created and closed issues for every Repo

Assignment Deliverables:

You are required to submit a SINGLE Zip file that has the following deliverables are:

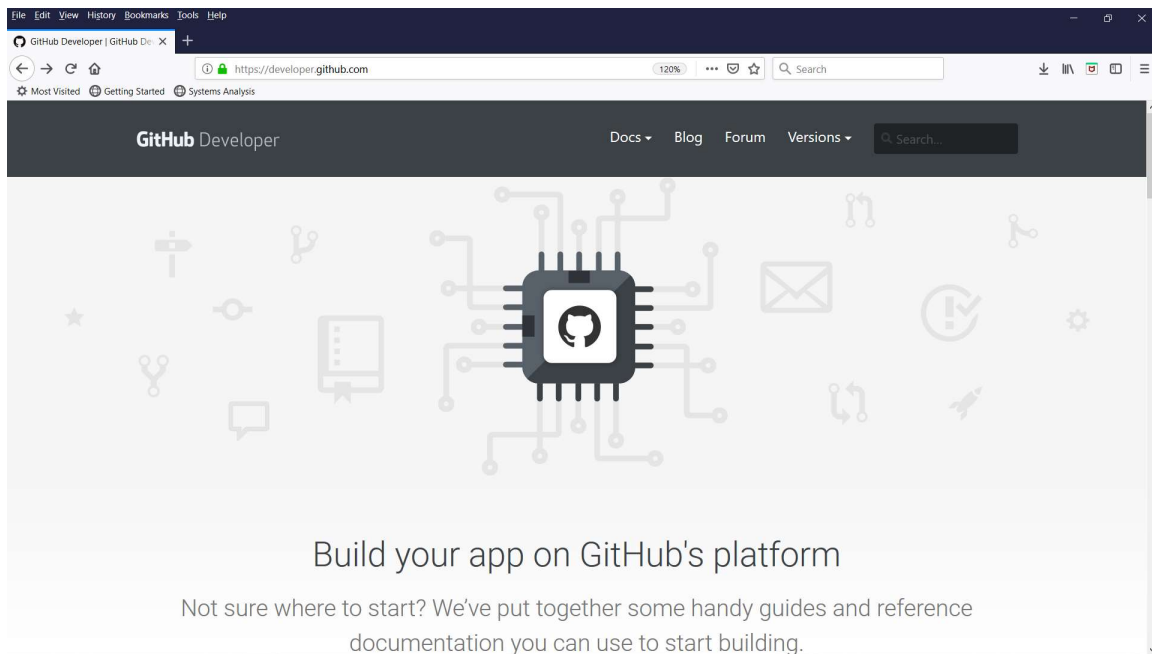
1. Your IPYNB script
2. Your HTML document for your IPYNB script
3. All of your source code
4. Output report that has ALL captured screen-shots of your assignment run saved in OUTPUT.pdf
5. Video recording of 10 minutes as a demo for the run of your assignment using <https://screencast-o-matic.com/>

Post your assignment as a SINGLE ZIP on Blackboard.



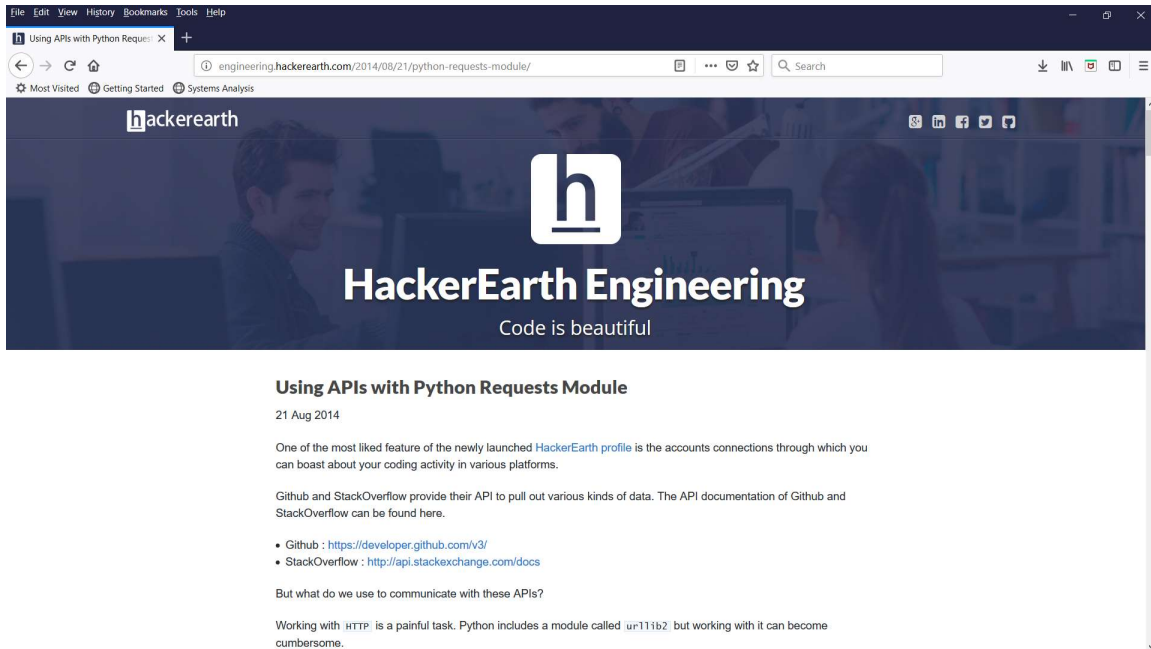
Appendix A : Resources & Websites:

<https://developer.github.com/>



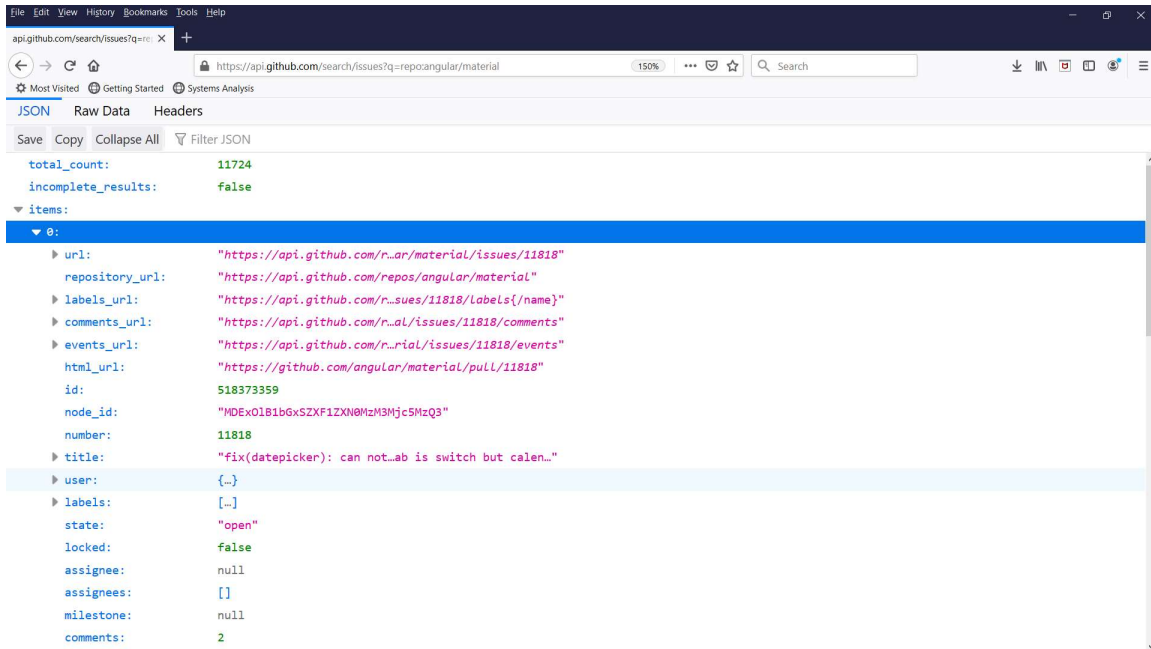
A very old link but still useful:

<http://engineering.hackerearth.com/2014/08/21/python-requests-module/>



You could use your browser to send a simple query to GitHub about certain repo. Here is an example:

<https://api.github.com/search/issues?q=repo:angular/material>



The screenshot shows a web browser window with the address bar displaying the URL `https://api.github.com/search/issues?q=repo:angular/material`. The browser's developer tools are open, showing the JSON response from the API. The response is a JSON object with the following structure:

```
{
  "total_count": 11724,
  "incomplete_results": false,
  "items": [
    {
      "url": "https://api.github.com/repos/angular/material/issues/11818",
      "repository_url": "https://api.github.com/repos/angular/material",
      "labels_url": "https://api.github.com/repos/angular/material/issues/11818/labels{/name}",
      "comments_url": "https://api.github.com/repos/angular/material/issues/11818/comments",
      "events_url": "https://api.github.com/repos/angular/material/issues/11818/events",
      "html_url": "https://github.com/angular/material/pull/11818",
      "id": 518373359,
      "node_id": "MDExOjI1bGxSZXF1ZXN0MzM3Mjc5MzQ3",
      "number": 11818,
      "title": "fix(datepicker): can not..ab is switch but calen..",
      "user": {
        "login": "angular",
        "id": 1,
        "avatar_url": "https://avatars.githubusercontent.com/u/1?v=4",
        "gravatar_id": "",
        "url": "https://api.github.com/users/angular",
        "html_url": "https://github.com/angular",
        "followers_url": "https://api.github.com/users/angular/followers",
        "following_url": "https://api.github.com/users/angular/following",
        "subscriptions_url": "https://api.github.com/users/angular/subscriptions",
        "organizations_url": "https://api.github.com/users/angular/orgs",
        "repos_url": "https://api.github.com/users/angular/repos",
        "events_url": "https://api.github.com/users/angular/events",
        "received_events_url": "https://api.github.com/users/angular/received_events",
        "type": "User"
      },
      "labels": [],
      "state": "open",
      "locked": false,
      "assignee": null,
      "assignees": [],
      "milestone": null,
      "comments": 2
    }
  ]
}
```