Group: AAAnime

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Link to GitHub Repository: https://github.com/YaChny/AAAnime

1. The goals for your project including what APIs/websites you planned to work with and what data you planned to gather (10 points)

AnimeChan (https://github.com/RocktimSaikia/anime-chan)

- “anime”: name of each anime which has “um” in their name
- ”character”: character of the selected animes
- “quote”: quote by the characters of the selected animes

Kitsu (https://kitsu.docs.apiary.io/#)

- “canonicalTitle”: the title of the anime
- “averageRating”: the average rating for the anime
- “userCount”: the number of users that watch the anime
- “startDate”: the date that the anime started

Danbooru (https://danbooru.donmai.us/artists.json?login=zhiyew0106&api_key=PmSnM9x5qbFD8eR3ExjbbJqs&limit=120&page=1)

- “name”: the artist’s name
- “other_names”: the nickname / alias of the artists

(https://danbooru.donmai.us/tags.json?login=zhiyew0106&api_key=PmSnM9x5qbFD8eR3ExjbbJqs&limit=120&&page=1)

- “name”: the tag name associate with artist name
- “post_count”: number of post relates to the tag
- “category”: the category that tag belongs to
    - five categories in total: General (correspond value: 0), Artist (correspond value: 1), Copyright (correspond value: 3), Character(correspond value: 4), Meta (correspond value: 5)

2. The goals that were achieved including what APIs/websites you actually worked with and what data you did gather (10 points)

AnimeChan by Zichen Zang

- I did create three tables, one for Anime Names which contains “um” selected from “anime”, one for the characters of the selected animes ”character”, and one for the quotes by each character from the selected animes “quote”.

Kitsu by Anca Fu

- I created two tables. The first table contains the “canonicalTitle” which is the title of the anime, “averageRating” which is the average rating for the anime, and “userCount” which is the number of users that watch the anime. The other table contains “episodeCount” which is the number of episodes available for the anime.

Danbooru Anime by Violetta Wang

- I created two tables. One is about artist’s names, containing the artist's “names” and “other names”. Another table is about the information of tags, containing the tag’s “name”, “post_count” and “category”.

3. The problems that you faced (10 points)

Zichen Zang: One main problem I faced was that the default rate limit is 100 requests per hour for my API. However, if I ran my codes several times to add 25 items each time and gain at least 100 items, the amount of requests I made would definitely exceed this limit. As a result, I have to wait for an hour, again and again, to finally gather all the items I need into the database. This problem was not hard to solve but was really time-consuming.

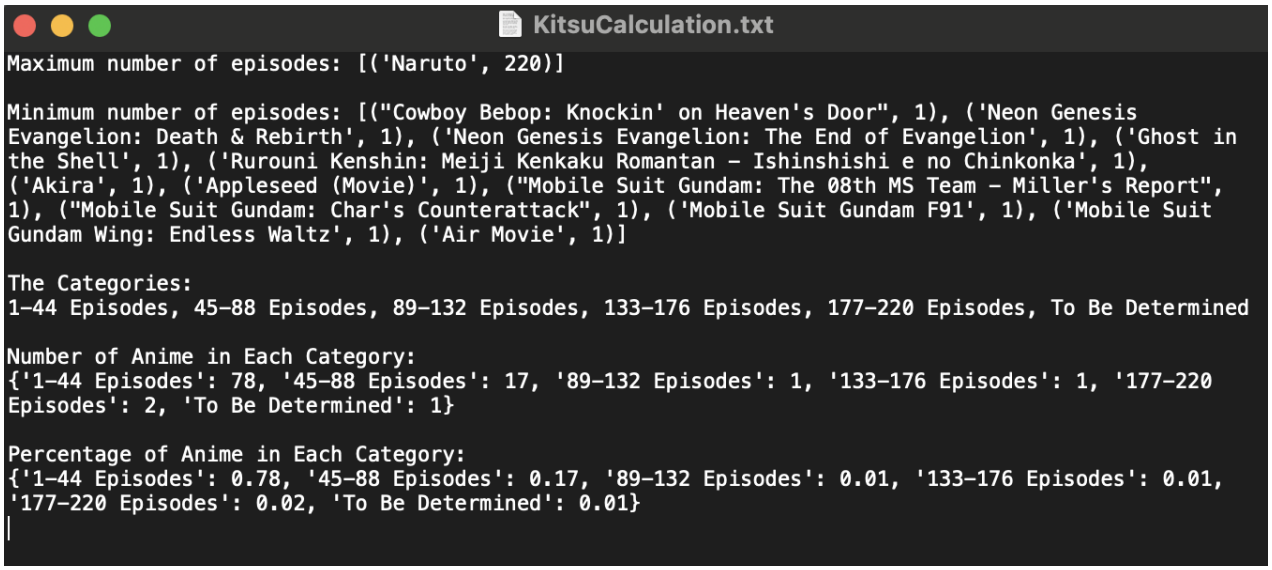
Anca Fu: The first problem that I faced is thinking about how to put 25 items into the database every time I run the file instead of looping through the function 4 times. However, I found that the solution is finding the largest integer key and setting the start variable equal to the next row. The second problem is finding out what data to calculate and visualize that required me to join the databases. I decided to categorize the first 100 anime in Kitsu by the episode count in a pie chart.

Violetta Wang: I couldn't get the data at first. I thought it might be because the API needs an API key, but I already put my API key. Then, I search this problem online and add 'authority', 'headers' and other information. I acquired data in the end but in HTTP format instead of JSON. Then, I tried to use selenium as it can simulate browser operation to request the artist JSON data instead of request lib, and it works. Another problem is that I found I only gained 20 items from the API, leading to the result of duplicate requests. However, I found instructions from the API website, which states that it needs to add “limit=100” at the end of the link so that I can request for 100 items at one time.

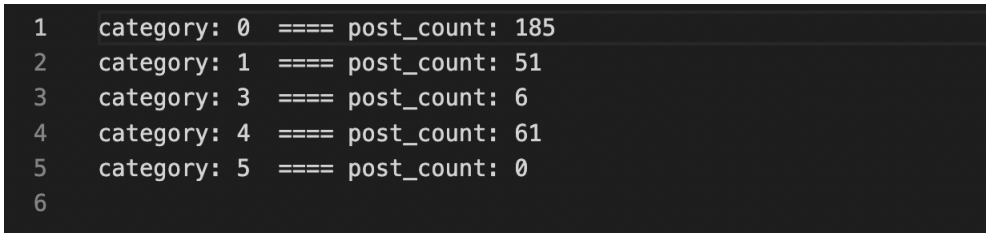
4. The calculations from the data in the database (i.e. a screenshot) (10 points)

Zichen Zang:

Anca Fu:



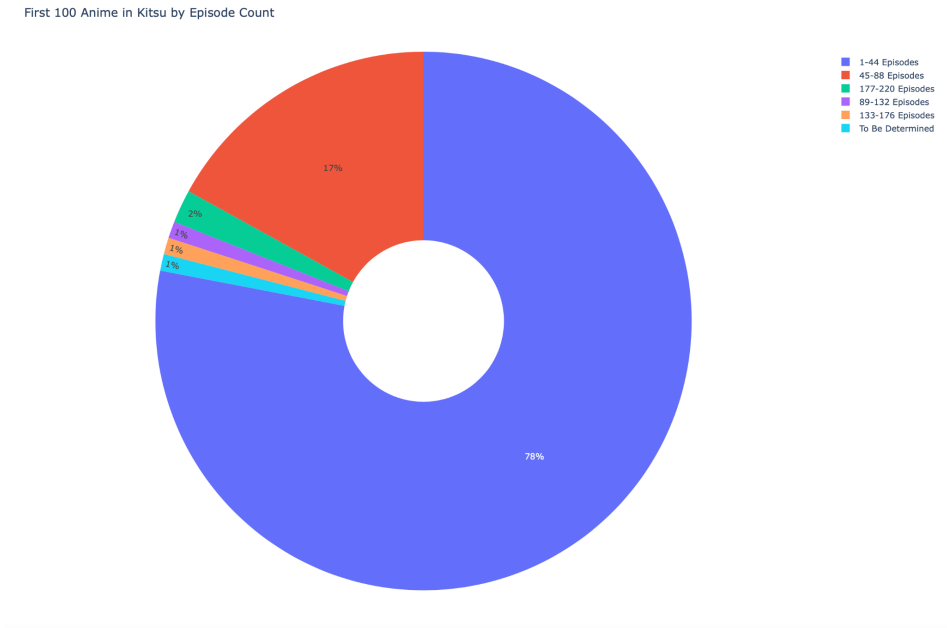
Violetta Wang:



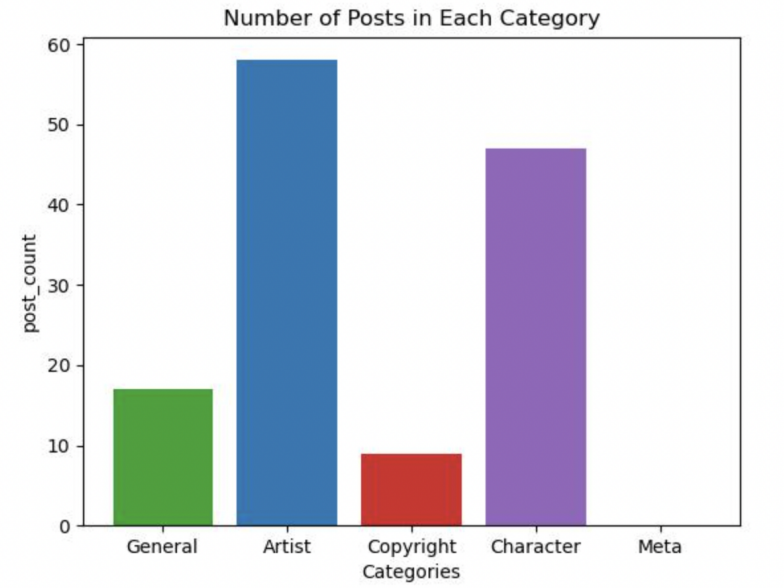
5. The visualization that you created (i.e. screenshot or image file) (10 points)

[The Visualizations Created by Zichen Zang]

The Visualization Created by Anca Fu



The Visualization Created by Violetta Wang:



6.Instructions for running your code (10 points)

For AnimeChan:

1. First, run the *AnimeChan.py* 5 times to gather about 118 items in total into the database.
2. Then, run the *AnimeChanCalculation&Visualization.py* to do the calculations, output the results into the *AnimeChanCalculation.text*, and generate the visualization graphs by Plotly.

For Kitsu:

1. Run *Kitsu.py* four times to gather a total of 100 items into *Animeee.db*.
2. Run *Kitsu (Calculations and Visualization).py* to do the calculations, output the calculation results into *KitsuCalculation.txt*, and generate the pie chart that is visualizing the calculated data by Plotly.

For Danbooru Anime:

1. Run *Danbooru Anime.py* four times to gather a total of 100 items into *Animeee.db*.
2. Run *Danbooru (Calculations and Visualization).py* to do the calculations, output the calculation results into *DanbooruCalculation.txt*, and generate the histogram that is visualizing the calculated data by Plotly.

7. Documentation for each function that you wrote. This includes describing the input and output for each function (20 points)

AnimeChan Functions Documentation

Kitsu Functions Documentation

Danbooru Anime Functions Documentation

8. You must also clearly document all resources you used. The documentation should be of the following form (20 points)

Date	Issue Description	Location of Resource	Result (did it solve the issue)
04/15	How to get the MAX id from the current table (AnimeChan.py)	How do I select an entire row which has the largest ID in the table? - Stack	Yes, solve the issue

		Overflow	
04/15	Why always showing “JSONDecodeError: Expecting value: line 1 column 1 (char 0)” (AnimeChan.py)	JSONDecodeError: Expecting value: line 1 column 1 (char 0) - Stack Overflow	Yes, solve the issue
04/17	How to create a series of pie charts with different titles (AnimeChanCalculation&Visualization.py)	Pie charts in Python	Yes, solve the issue
4.17	How to get the next row of a query result set after 25 items is inserted each time the file is run (Kitsu.py)	Python db-api: fetchone vs fetchmany vs fetchall - Stack Overflow	Yes, solve the issue
4.17	How to access the result set of each selected row and storing them into a list (Kitsu (Calculations and Visualization).py)	Python SQLite3 / Selecting rows from table - Stack Overflow	Yes, solve the issue
4.18	How to make a pie chart with a hole in the middle with the calculated data (Kitsu (Calculations and Visualization).py)	How to create a Pie Chart in Plotly Python - Life With Data	Yes, solve the issue
4.17	How to get access to data from API (DanbooruAnime.py)	Gain Json data by using requests	Yes, solve the issue
4.17	How to make the requested data become JSON format	selenium automates browsers	Yes, solve the issue

	(DanbooruAnime.py)		
4.18	How to request more items from API (DanbooruAnime.py)	Danbooru help:api(locked)	Yes, solve the issue
4.18	How to create histogram with different color in each bar (DanbooruCalculation&Visualization.py)	Matplotlib: bar color demo	Yes, solve the issue