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DSC680 Project 1

White Paper

The premise of this analysis is that I will be creating a table that can be used as a source for the Micro Nations. When searching for data on Micronations, there is a gap in the amount of information and a centralized location to gather that data. What I am looking to do to solve this problem is to gather information online from Wikipedia on Micronations, combine that information into one central file, and then perform some analysis on the data.

Micronations have been around for many years across the globe. The definition of a micronation is as follows, “A micronation is a political entity whose members claim that they belong to an independent nation or sovereign state, but which lacks legal recognition by world governments or major international organizations.” These nations are classified as de facto states and they are not considered to be autonomous or self-governing, because they lack legal basis in international law. This is likely because they are not recognized by most other countries, and they reside in already preexisting nations. A few areas where we find many micronations include Australia, the United States, the United Kingdom, and France. To learn more about micronations I will begin by doing exploratory data analysis and create my central database where I can find and look up each of these nations.

To start my data exploration, I went to Wikipedia where I found a list of each of the micronations. The Wikipedia page that I sourced had over fifteen different tables of micronations, split up by whether they were currently still running and operating as a micronation, or if they disbanded over the years. To start I went ahead and created an API call that used beautiful soup to parse out the Wikipedia tables. I was able to extract each of the different tables into sixteen different Pandas data frames that I was managing within my workbook.

One thing I noticed immediately was that some imported lists had different columns and different formatting. To compensate for this, I had to create the missing columns and fill in the data for each of the data tables that were incomplete. This allowed me to have a uniform structure in each of the sixteen different tables that I was managing. I then grouped the tables together and concatenated them into two categories, one category was all the micronations that we are still current, and the other table was the one of former nations.

I noticed that each of the tables that I was pulling from Wikipedia contained a flag column. The flag column did not hold any value that I can pull into a Pandas data frame because it was a GIF image on the Wikipedia page. Because of this I got a lot of blank values in that column, and I decided to drop that column in both tables. I also was able to obtain a date column that had the creation and end date of each of the micronations in it.

I had to tackle each of the two tables separately as they contained different data types. For the table that was former micronations, I went ahead and made two columns that parsed out the start and end dates. There were a few ambiguous end dates for some of the micronations, which involved me doing additional research to find out when those micronations were disbanded or around what period they were disbanded. After resolving this information and parsing out the two columns, I was able to perform a calculation that let me know how long each of those micronations existed.

For the table that contained the current micronations, I started in the same manner where I parsed out the year in which the micronation came into existence. Because the Wikipedia page said that they were all current I went ahead and created the end year as 2023 the current year that we are within. After sorting out a few miscalculated columns, I was able to perform the calculations necessary to get the list of years each of the micronations have been in existence.

The last step for my data preparation was that I did emerge on both tables. This was done by doing an outer merge because all the values on the tables were completely different. Once this was complete, I had three separate tables to work with, my current data set, the former data set, and my merged data set. This is when I was able to start creating some plots to analyze the data.

Chart, bar chart, histogram

Description automatically generatedOne of the first things I found was that there were several micronations located in Antarctica. These micronations were founded by people looking to make a point about climate change and the state in which they lived in. I also found that tree with the most micronations historically was Australia. Has a disproportionate number of micronations for several reasons, the first micronation in Australia was created in the year 1970 and it was due to a couple of farmers who did not want to pay taxes. Over the years several other micronations formed for other enclaves of individuals who did not want to pay taxes or live on the government ruling, and a few of those micronations were established to bring awareness to certain political agendas. Other countries that had several micronations include France, The United States, and the United Kingdom. A few of the micronations in the United States came to being for media attention. This include territories that are lands in the Caribbean that have been annexed or asserted control of by the United States. HR of the number of micronations for each location in my data set can be found below.

Two other charts that I made was comparing the length of each micronations existence based on whether they were currently operating or where a former micronation. Of current micronations I found certain micronations located in Antigua and Barbuda, Caribbean islands, and Chile, to be some of the longest in existence, around 150 years.

Chart, scatter chart

Description automatically generated

For micronations that we are no longer in existence I found quite a few of them in Australia and the longest in existence being the state of Scott that was in the United States. The state of Scott was a unionist enclave that was created after the American Civil War as a group of individuals protested Tennessee joining the confederacy. The state of Scott lasted 125 years.

Chart, scatter chart

Description automatically generated

The final step I took was saving the data to excel and loading it into Power BI. This let me rebuild all the python charts into much nicer visualizations. This allowed a much more powerful graphing tool for the visuals, and I was also able to create a map showing the location of each micronation. The map was fully clickable with tooltips that allowed descriptions of each of the micronations to be added to the dataset.

Map

Description automatically generated

In conclusion, I was able to make a data set that was able to pull from several different Wikipedia sources to make a centralized data set for all micronations and create some interesting plots with them. Some of the limitations that I faced was that the information I had obtained was all from Wikipedia, and Wikipedia pages are mostly user input information. What this means is that a lot of the data can be input incorrectly or falsely by the users, and it can be a little tricky to validate some of it. The assumption that I needed to make to work through this data set is that all the data and dates of each of the data points I captured or factual. I could have spent the time researching every single one of the micronations to verify and validate the results, but this would take an extreme amount of time, so I was relying on the data to be inputted accurately. To some people using Wikipedia can be an ethical concern since you would need to go through each of the sources for all the data points within a Wikipedia page to verify whether it was a good source of data.

Some future uses of this data that I would like to see is adding geocoordinates to each of the different micronations that were established. I also want to include hyperlinks in the data set to where individuals can find more information on each of these micronations. One interesting visual that I would like to see with this data is if I were able to get the geo coordinates of each of the micronations if I were to plot the data on a 3D map of the world. This would lead to an interesting visualization of the locations of each of these micronations that could help individuals identify where they were. A future application of this data set is once it is built out and perfected a little bit more, I can add things like the population, the square feet, the governing body, and other useful information that people can use to find and research these topics. Once I get to that complete data set this can be uploaded to its own Wikipedia page or Kaggle or any other online site as a complete data set that individuals can pull for their own research purposes.

10 questions on the data analysis and answers

1. What references are the Wikipedia page using?
   1. The Wikipedia citations can be found at the bottom of the page. It appears to be several articles from news stations to research papers.
2. When was this Wikipedia page last updated and by who?
   1. This can also be found at the bottom of the Wikipedia page, and it appears the last change was April 8th, 2023, pretty recently.
3. What data was manipulated or created in the data set?
   1. All the data found in the tables on each of the Wikipedia pages was extracted into pandas data tables. Every table in the Wikipedia links that housed nation data was extracted and loaded.
4. Who would be interested in viewing this data?
   1. This dataset can be uploaded to Kaggle and anyone doing research on different micronations can use this data to begin their analysis or to build on it.
5. What is the history of the Wikipedia page?
   1. The history of Wikipedia pages can also be found at the top of the page. For the main list of micronations, you can find the history here that has who and when they updated, and what was changed. [List of micronations: Revision history - Wikipedia](https://en.wikipedia.org/w/index.php?title=List_of_micronations&action=history)
6. Where will the data be uploaded once complete?
   1. Once complete I will load the data into my GitHub repo as a project that I own, and the cleaned dataset can also be placed in Kaggle for others.
7. What other visualizations can be made with the data?
   1. We made the map visualization, and with that we can also get XY coordinates to get more accurate locations for each. We can also create heat maps or a timeline of the creation and stop many of the micronations. Very similar to a run chart of the data.
8. Can there be any other groupings of the data points?
   1. We can group the micronations by size if we were able to go back and extract the population of each one. Some of them had small populations of only 1-10 people, but if we can get this data, them we can create those groupings.
9. Was there any micronations that lasted less than one year?
   1. There were 10 of the micronations that had existence of 0-2 years. One of which was Principality of Marlborough. This is a neat learning from the data and additional analysis can be done as to why these were created and disbanded so quickly.
10. What was learned from doing this data analysis project?
    1. I learned more about the overall ETL process. I got practice in making API calls and scraping data out of websites. There was also a good amount of research on micronations that was learned. The mapping tool in PBI was used and I was able to make a visualization that I hadn’t used before that I was quite proud of and would use again.

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