



LOVELY
PROFESSIONAL
UNIVERSITY

DATA VISUALIZATION PROJECT REPORT

PROJECT REPORT

ON

Airbnb Dashboard Analysis

Submitted by

Suraj Kumar

12012825

Programme: Bachelor of Technology

Section: KM010

Course Code: INT233

Under the Guidance of

Sandeep Kaur

Assistant Professor

Discipline of CSE/IT

School of Computer Science & Engineering

Lovely Professional University, Phagwara

DECLARATION

I hereby declare that I have completed this project under the guidance of Sandeep Kaur .I declare that I have worked full dedication during this project and my learning outcomes fulfill the requirements of training for the award of degree of B.tech. CSE, Lovely Professional University, Phagwara.

Date: 19/04/2023

Signature

Suraj Kumar

Registration No: 12012825

CERTIFICATE

This is to certify that. Suraj Kumar bearing Registration no.12012825 has completed INT233 project titled, “**Airbnb Dashboard Analysis**” under my guidance and supervision. To the best of my knowledge, the present work is the result of his/her original development, effort and study.

Signature and Name of the Supervisor

Sandeep Kaur

Designation of the Supervisor

Assistant Professor

School of Computer Science & Engineering

Lovely Professional University

Phagwara, Punjab.

Date: 19/04/2023

ACKNOWLEDGEMENT

I would like to express my gratitude towards Tableau for providing me the golden opportunity to do this wonderful project regarding **Airbnb Dashboard Analysis**, which also helped me in doing a lot of homework and learning. As a result, I came to know about so many new things. So, I am really thank full to them. Moreover I would like to thank my friends who helped me a lot whenever I got stuck in some problem related to my course. I am really thankful to have such a good support of them as they always have my back whenever I need. I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations.

I would like to extend my sincere thanks to all of them. Deepest thanks to our Trainer Sandeep Kaur for his guidance, monitoring, constant encouragement and correcting various assignments of ours with attention and care.

Table of Content

Sr No.	Title	Page No.
1	Introduction	6
2	Scope of the Analysis	7
3	Source of dataset	8
4	Analysis on dataset	9 to 18
5	References	19
6	Bibliography	20

INTRODUCTION

Airbnb is a popular online marketplace that allows people to rent out their homes, apartments, or other accommodations to travelers looking for a place to stay. Tableau is a powerful data visualization and business intelligence tool that can be used to analyze data from a variety of sources, including Airbnb. By combining Tableau with Airbnb data, users can gain valuable insights into the rental market, including trends in pricing, occupancy rates, and popular locations. Tableau can also be used to create custom dashboards and visualizations that make it easy to track key metrics and make data-driven decisions.

Some of the key features of Tableau that make it useful for analyzing Airbnb data include its ability to connect to a variety of data sources, including Airbnb's API, and its intuitive drag-and-drop interface that makes it easy to create charts, graphs, and other visualizations. Tableau also offers powerful data analysis and modeling tools, allowing users to identify correlations and trends in large datasets.

Overall, using Tableau to analyze Airbnb data can help hosts and property managers optimize their listings, better understand their customers, and make data-driven decisions that lead to greater profitability and success in the short-term rental market.

Scope of the Analysis

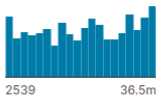
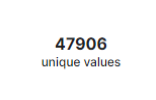
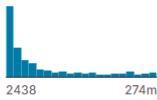

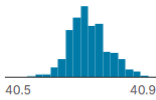
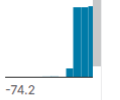
The scope of the analysis for an Airbnb dashboard will depend on the specific needs and objectives of the organization. However, some common areas that are typically included in an Airbnb dashboard are:

- Average price in the neighborhoods room type
- Total bookings by month and neighborhood group room type
- Total neighborhood by neighborhood group
- Top ten hosts by total review
- Total booking by neighborhood group and room type
- Total review by years
- Average room price by neighborhood group
- Average price in the neighborhood -neighborhood group
- Average reviews per month by room type and neighborhood group

Source of dataset

<https://www.kaggle.com/dgomonov/new-york-city-airbnb-open-data>

The source of the dataset for an Airbnb dashboard file includes all needed information to find out more about hosts, geographical availability, necessary metrics to make predictions and draw conclusions.

AB_NYC_2019.csv (7.08 MB)									
Detail Compact Column								10 of 16 columns	
id	name	host_id	host_name	neighbourhood_g...	neighbourhood	latitude	longitude		
listing ID	name of the listing	host ID	name of the host	location	area	latitude coordinates	longitude coord		
 2539 36.5m	 47906 unique values	 2438 274m	 11453 unique values	Manhattan 44% Brooklyn 41% Other (7130) 15%	Williamsburg 8% Bedford-Stuyvesant 8% Other (41261) 84%	 40.5 40.9	 -74.2		
2539	Clean & quiet apt home by the park	2787	John	Brooklyn	Kensington	40.64749	-73.97237		
2595	Skylit Midtown Castle	2845	Jennifer	Manhattan	Midtown	40.75362	-73.98377		
3647	THE VILLAGE OF HARLEM...NEW YORK !	4632	Elisabeth	Manhattan	Harlem	40.80902	-73.9419		
3831	Cozy Entire Floor of Brownstone	4869	LisaRoxanne	Brooklyn	Clinton Hill	40.68514	-73.95976		
5022	Entire Apt: Spacious Studio/Loft by central park	7192	Laura	Manhattan	East Harlem	40.79851	-73.94399		
5099	Large Cozy 1 BR Apartment In Midtown	7322	Chris	Manhattan	Murray Hill	40.74767	-73.975		

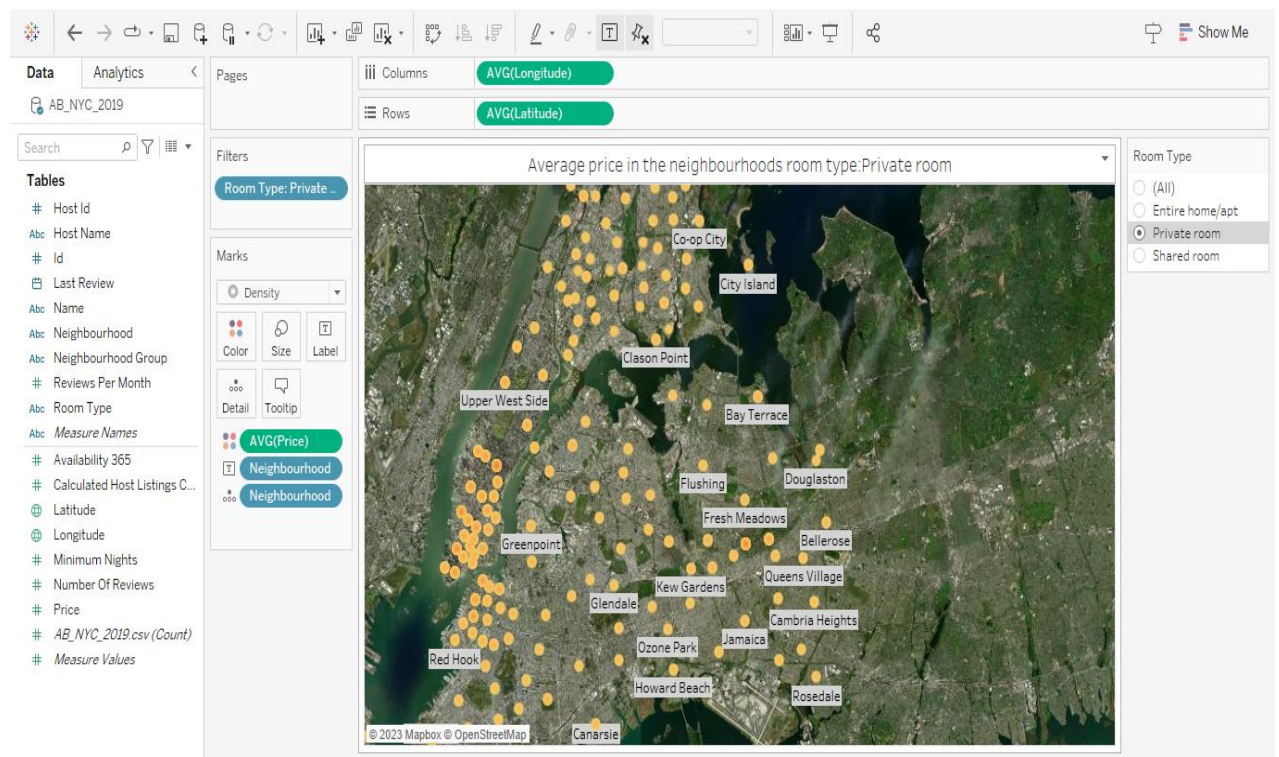
Analysis on dataset

- **Average price in the neighborhoods room type:**

In this we have created a map using the average price in the neighborhood by room type.

At first we have drag the longitudinal and latitude in the row and column after that we have put the avg. price in the colours and neighborhood and neighborhood group to label to give the map the legend. After that we have put the Room type in filter so that we can easily get the desired type of room.

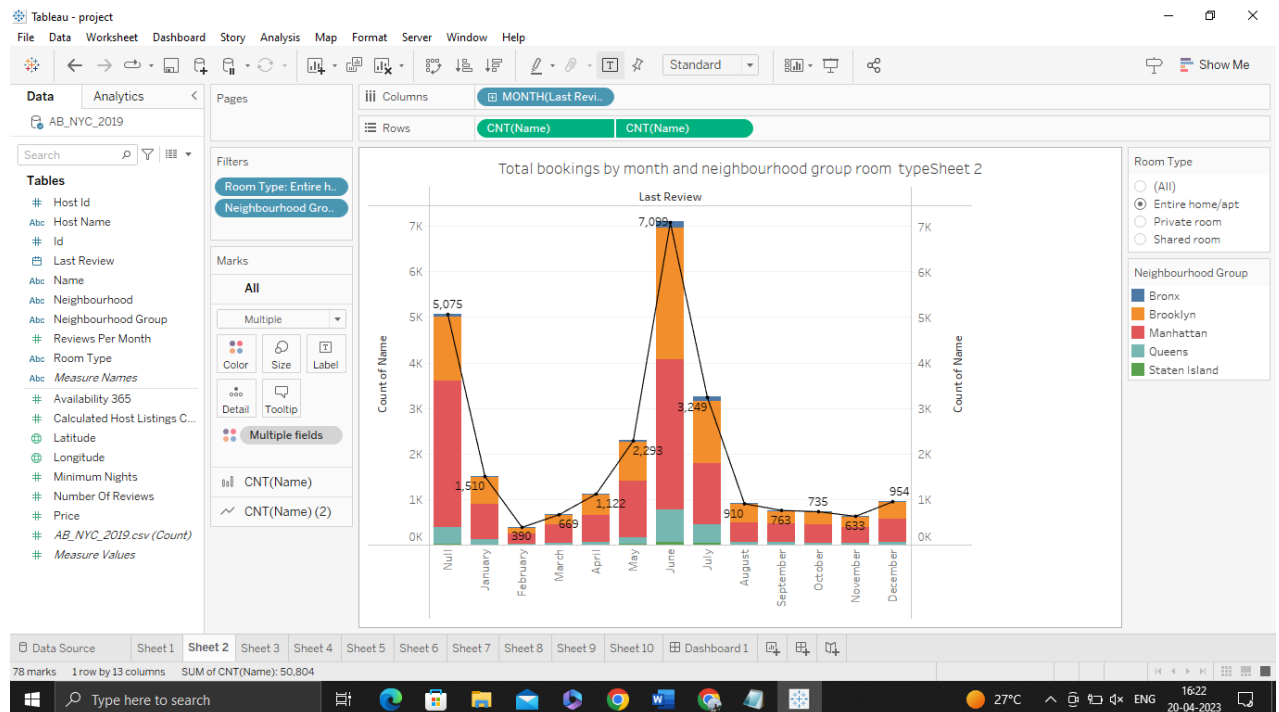
The output of this look like the following attached image



- **Total bookings by month and neighborhood group room type**

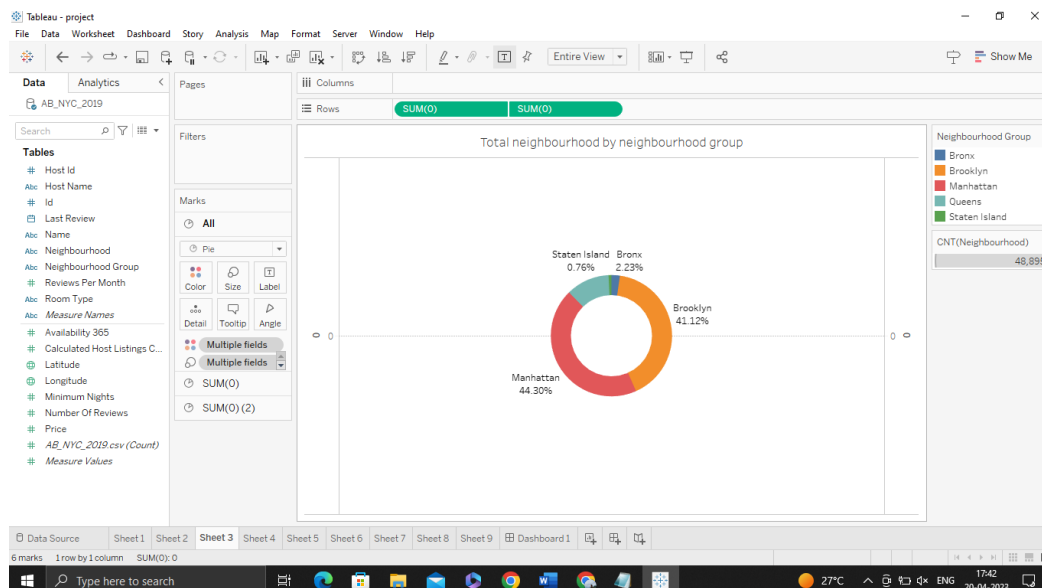
In this we have created a stacked bar chart for the total bookings by a month and neighborhood group and also room type.

At first we have drag the Last Review according to the month in the column and name in the rows. After this we have created a stack bar chart and to get a desired room we added room type again in filter and make it a single list selector. After that we have again make a duplicate CNT(Name) and make a line graph and make it dual axis which basically merged the both graph



- **Total neighborhood by neighborhood group**

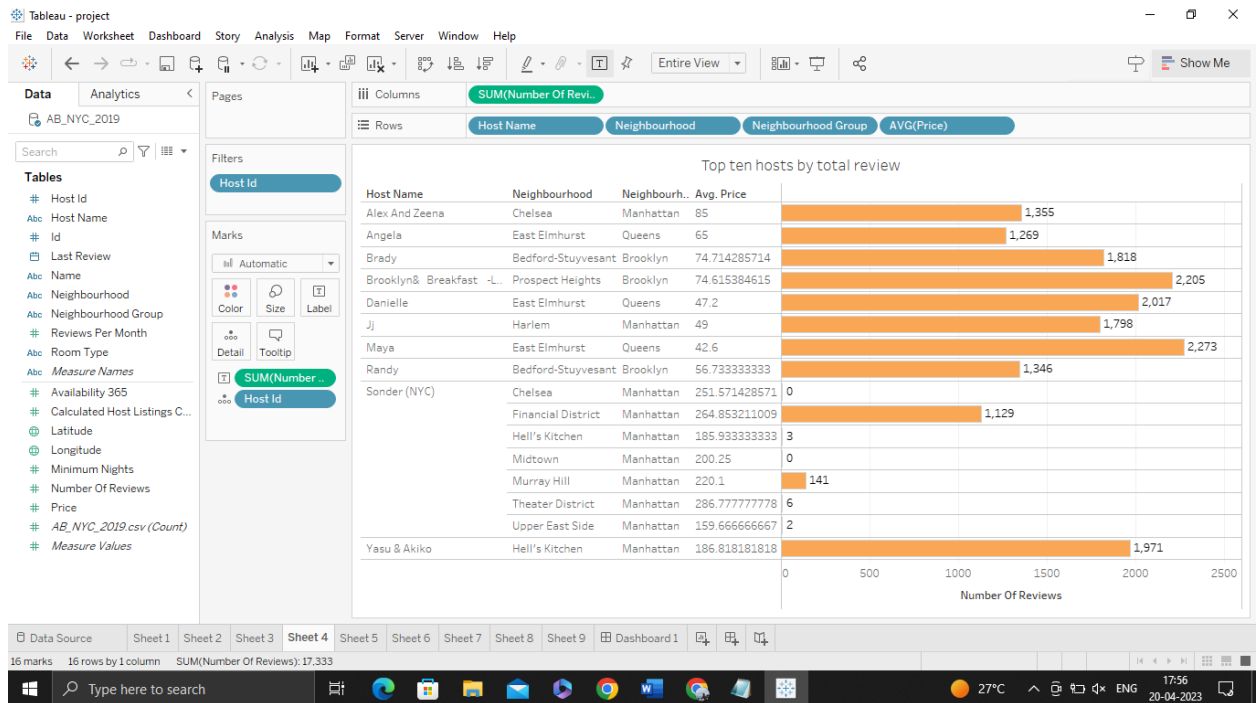
In this we have created a donut chart for the total neighborhoods in each neighborhood group. At first we have drag the neighborhood group into the color and then changes the marks to Pie. After that we have label the pie chart and then we have created a sum(0) in the row and duplicate it and put that in the same row as a result a duplicated pie chart created after that we have removed all the labels from 2nd pie and change the colour to solid white. After this we have reduced the size and then by dual axis we have merged the pie ultimately creating donut.



- **Top ten hosts by total review**

In this we have created a horizontal bars using host name, neighborhood group and neighborhood and avg(price) in the rows and sum(number of reviews) in the column.

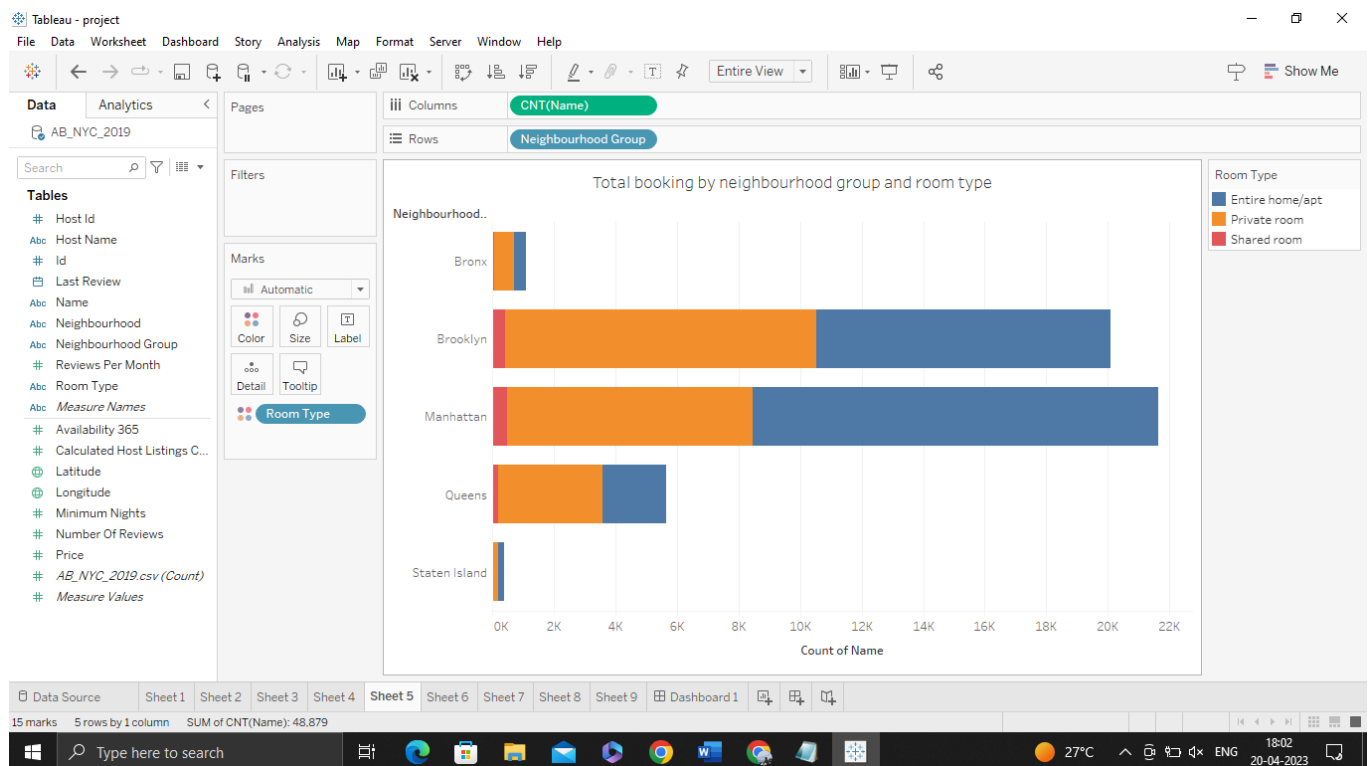
After that we have added filter in Host Id and Selected top 10 number of reviews on the basis of field. After doing this we have label the bar.



- **Total booking by neighborhood group and room type**

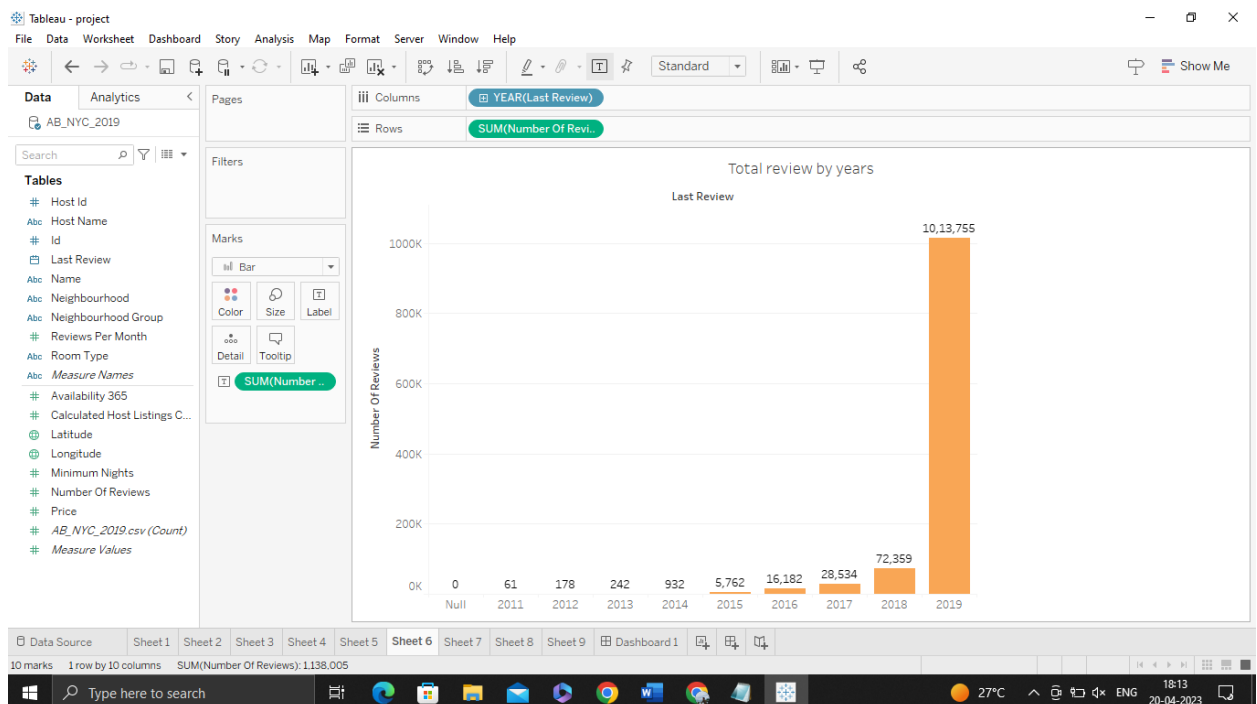
In this we have created a stacked bar chart which represents the total booking by room type and neighborhood group.

At first we placed name into the column and change it to CNT(name) after that we put the neighborhood group in the row then we will select stacked bar chart and give it colour and label it



- **Total review by years**

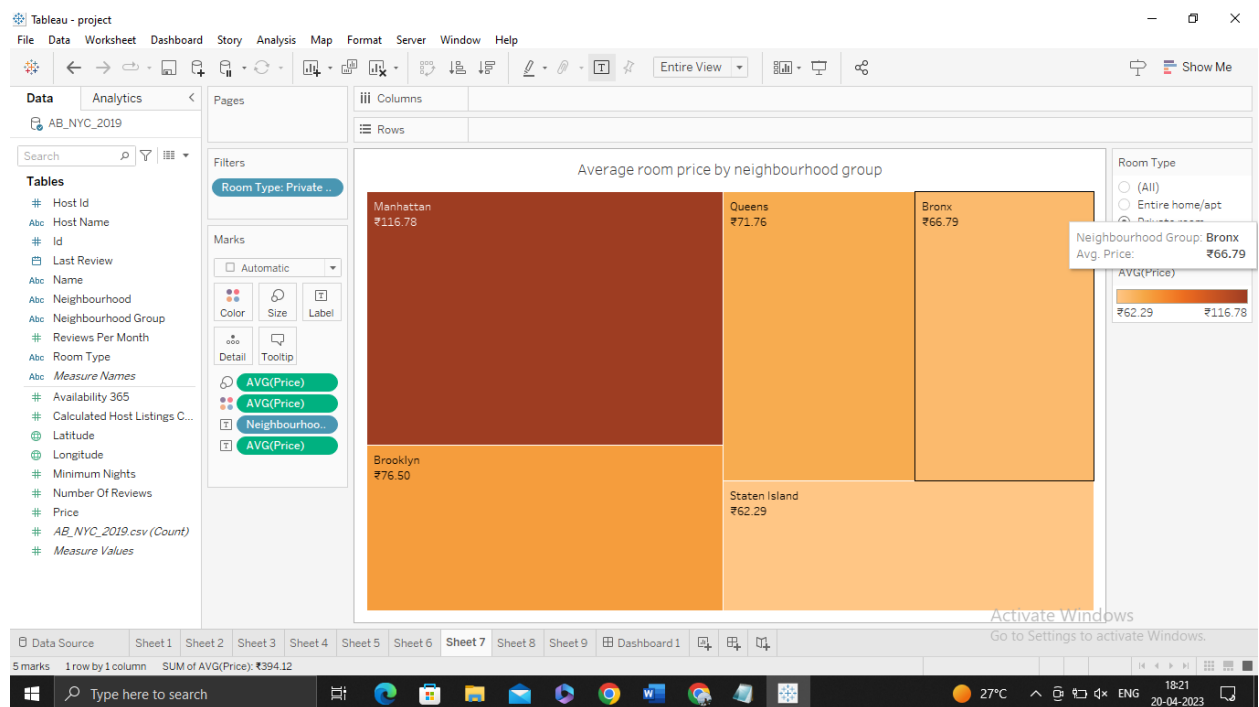
In this we are creating a bar graph on the basis of Last Reviews on the basis of Year we drag this in the column and Sum(Number of Reviews) in the row then we will select the bar chart and after that to label it we put Sum(Number of Reviews) in the Text .



- **Average room price by neighborhood group**

In this we create a tree map for the average price by neighborhood group and room type.

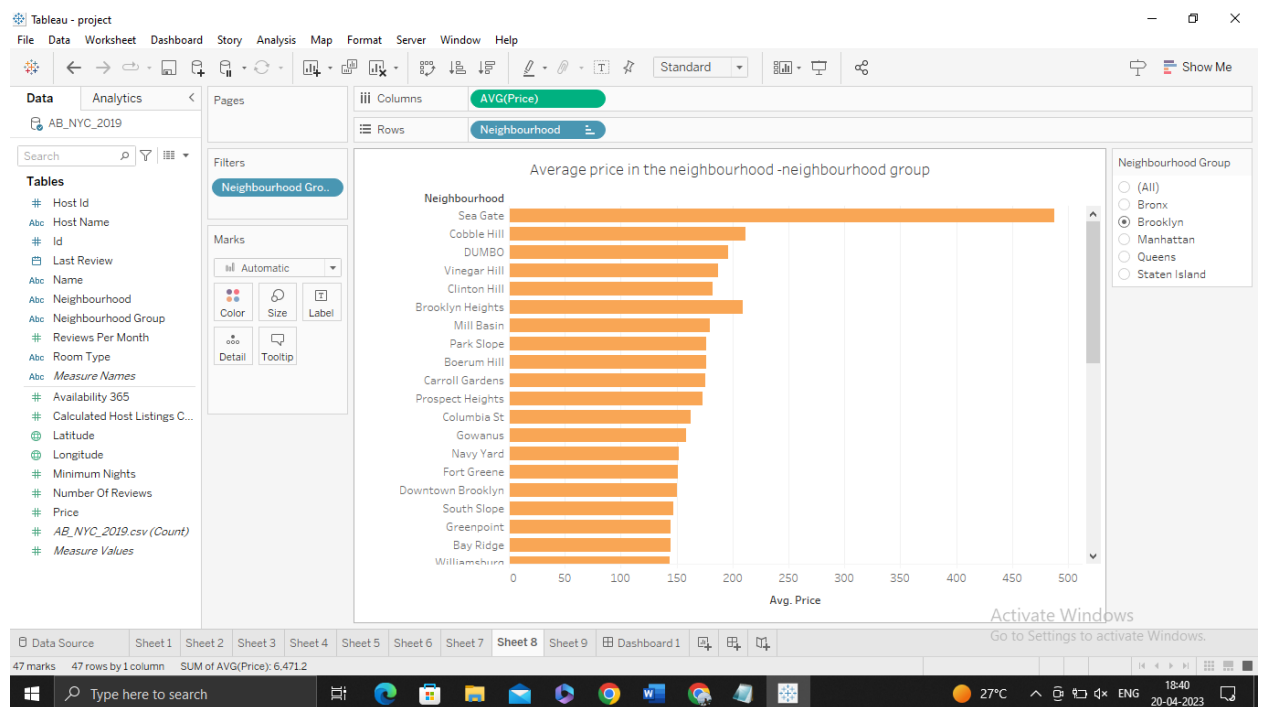
In this we take neighborhood group to column and avg (price) to text. After this we add filter to room type and select a single value list so that we can choose a particular kind of room on the basis of our need. We select the tree map and label it to get better information.



- **Average price in the neighborhood -neighborhood group**

In this we create a horizontal bar chart for the average price in each neighborhood by neighborhood group.

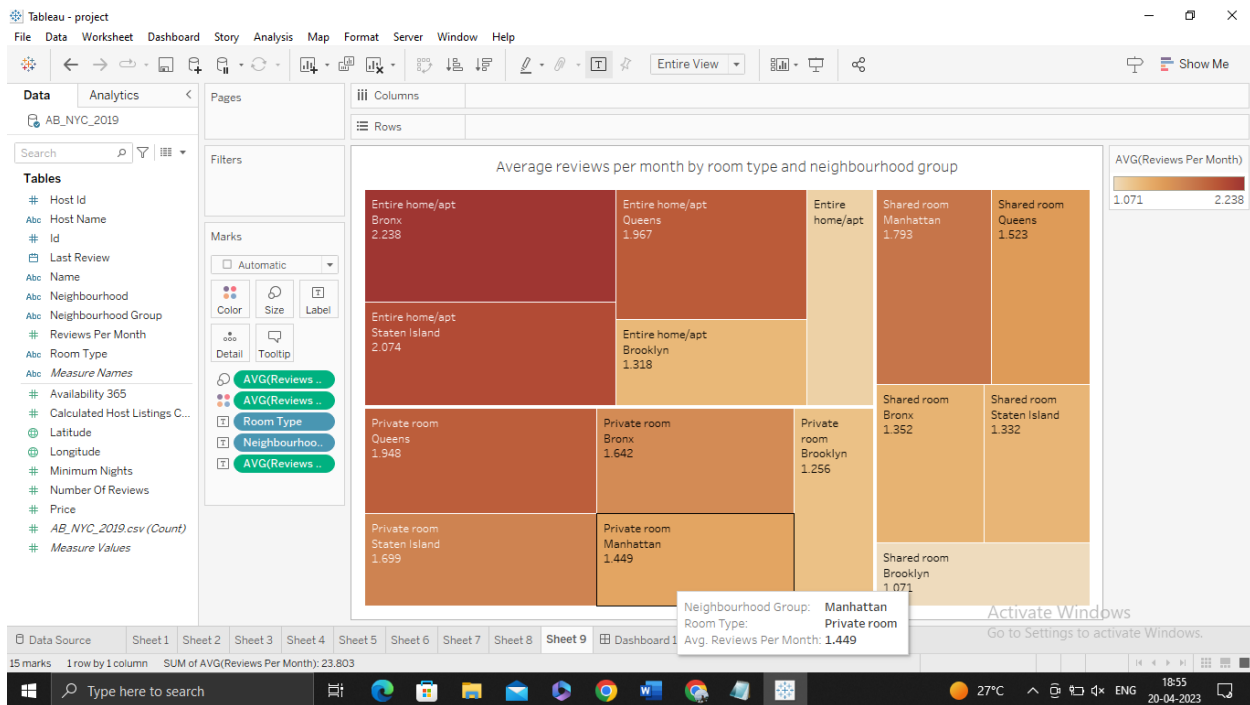
We put neighborhood into column and add neighborhood group into the filters. After that we put average price in the row and sort it. After that we label it and change the currency standard



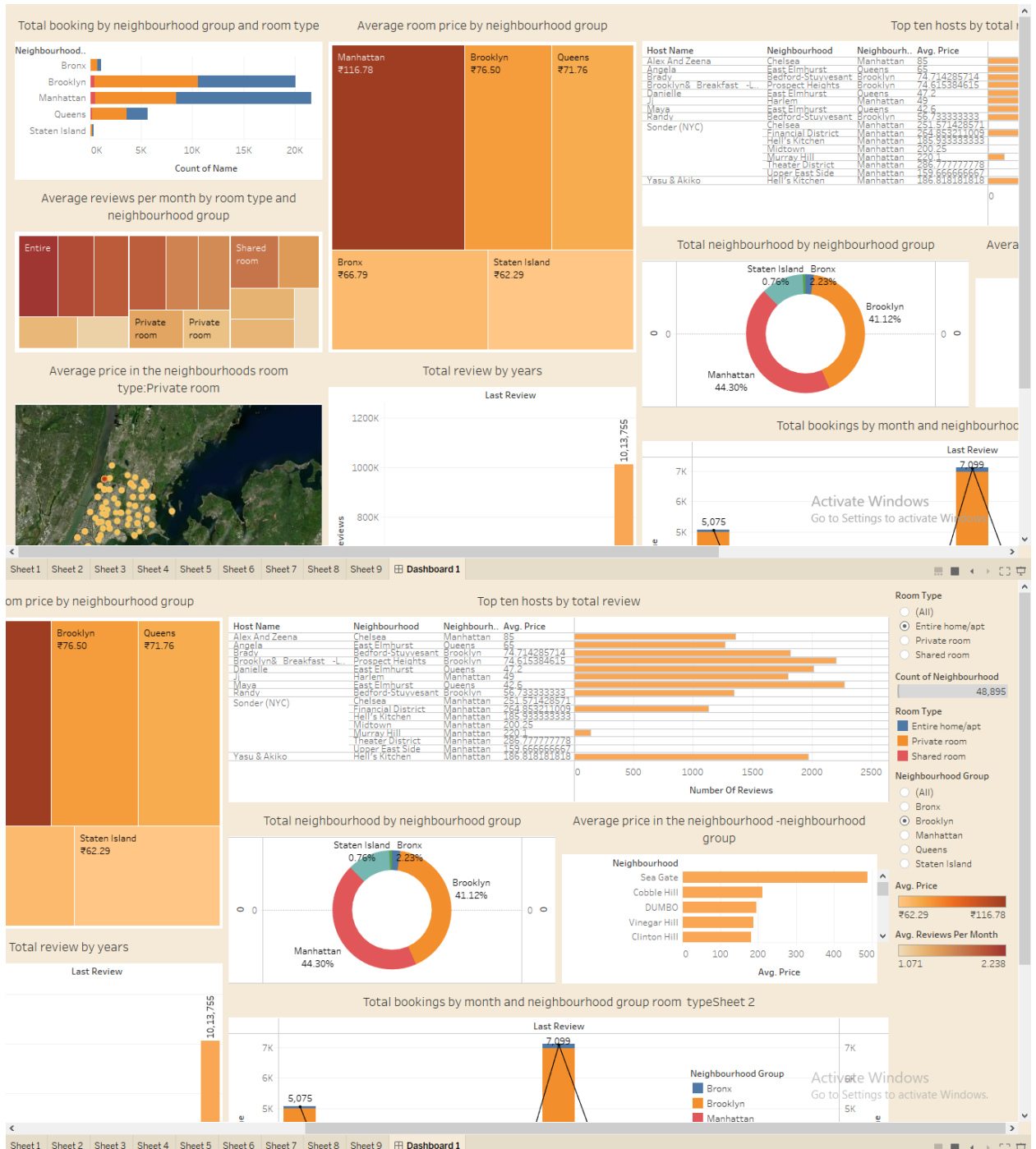
- **Average reviews per month by room type and neighborhood group**

In this we create a highlight table for the average views per month by room type and neighborhood group.

We drag and drop the neighborhood groups in the column and the room types in the rows and we put reviews per month in the text and select the average. After that we select the highlight table .



Airbnb Dashboard



Bibliography

Here are some sources you can use to gather more information about Airbnb Dashboard Analysis:

- "How to Create a Data Dashboard for Your Airbnb Business" by AirDNA: This blog post provides a tutorial on how to use Tableau to create a dashboard for your Airbnb business and includes examples of useful metrics to track.
- "Tableau Tutorial: How to Analyze Airbnb Data" by Analytics Vidhya: This tutorial provides a detailed guide to using Tableau to analyze Airbnb data, including how to connect to the data source, clean and transform the data, and create visualizations.
- "Airbnb Hosts: Tips for Analyzing Your Business with Tableau" by Interworks: This blog post provides tips on how to use Tableau to analyze Airbnb data, including how to identify trends and patterns, optimize pricing, and improve guest satisfaction.