

# **Finding the best district to open a Cofé shop in the city of Regensburg**

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# Outlook

- **Introduction**
- **Data sources**
- **Methodology**
- **Data Cleaning**
- **Data Analysis**
- **Results and discussion**
- **Conclusions**

# Introduction

Regensburg:

- Small
- Academic
- Medieval
- Historic city
- Structured into six districts: some for academic purposes and some for tourism

The problem:

Which district has the best Cofé shop and which one is the best to open a Cofé shop?.

Taking into account the distribution of the current Cofé shops around the city and the number of clients using the tips.

# Data sources:

The data has been taken from different places according its type:

- 1) For the Postal code and the districts of the city of Regensburg: the Deutsche Post website:  
<https://www.postdirekt.de/plzserver/PlzSearchServlet>.
- 2) For the latitude and longitude we used the location data platforms :
  - Foursquare: <https://foursquare.com/>
  - Strassenkatalog: <https://www.strassenkatalog.de>

# Methodology:

The methodology to solve the problem will be:

- Determine the six districts in a City map using its Postal Code, latitude, and longitude.
- Determine the flow of people for each district, this finding the number of Cofé shops on each district and its number of tips using the Foursquare API.
- Find the distribution of the Cofé shops around the districts on a City map.
- Determine the best district for the new Cofé shop using the distribution of the Cofé shop and its number of tips.

# Data Cleaning:

The main dataframe was created using:

1) Deutsche post website:

the postal code, the district, and city data

2) Foursquare API:

Latitude and the longitude for some districts.

3) Strassenkatalog Web site:

Latitude and the longitude for the rest districts

After the main dataframe was created:

1) We found all the Cofé shops on each district fixing a radius of 500 m, from the its center.

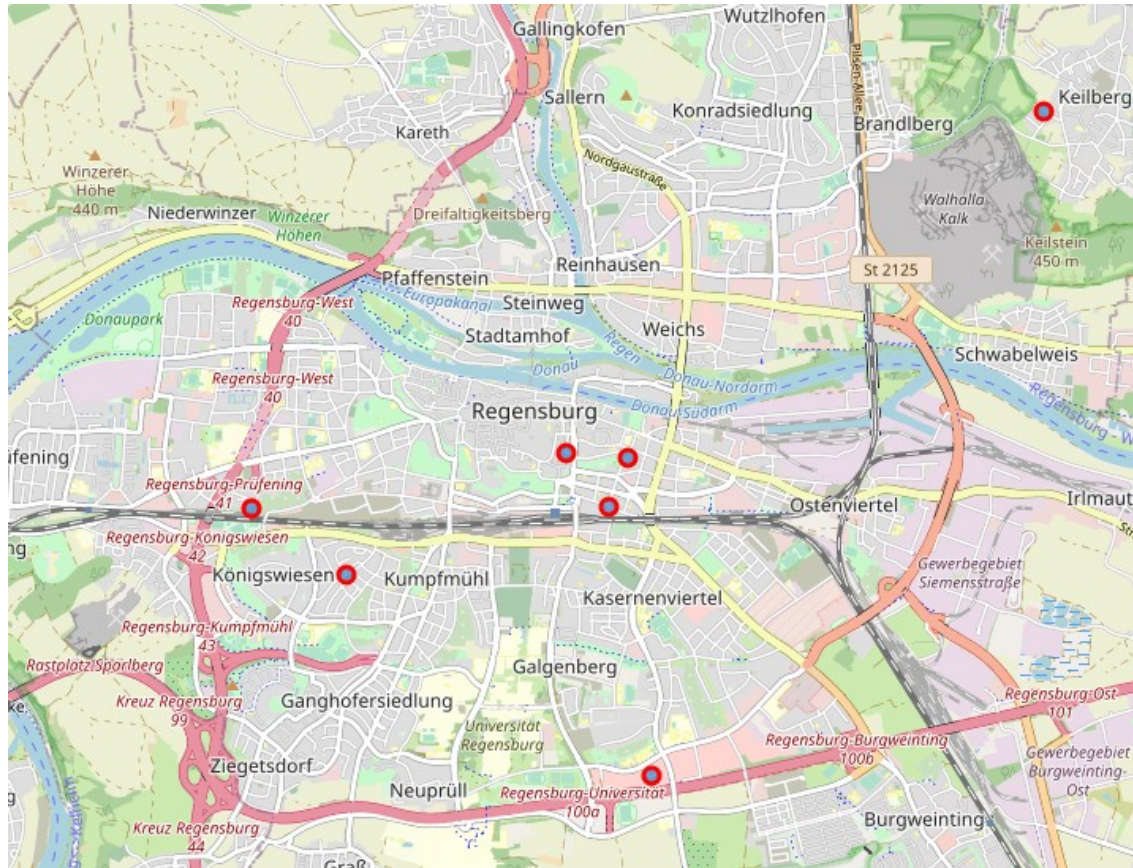
2) Fortunately, all information for the dataframe was able using the sources and there was no need to use NaN values or to drop certain columns.

# Main dataframe

- The main dataframe for the city of Regensburg

District	Latitude	Longitude	No. Cofé Shops
Großprüfening-Dechbetten-Königswiesen	49.007839	12.077042	0
Innenstadt	49.016491	12.100904	30
Kasernenviertel	49.012688	12.105520	9
Ostenviertel	49.016174	12.107655	9
Westenviertel	49.012512	12.066780	0
Brandlberg-Keilberg	49.040813	12.152743	0
Galgenberg	48.993454	12.110230	0

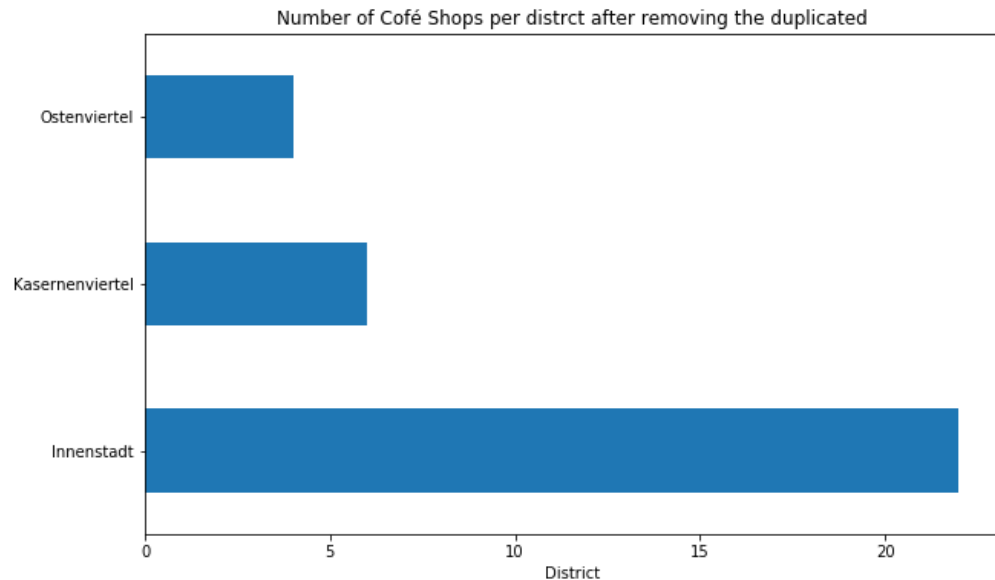
# Districts of Regensburg





# Data Analysis:

Using the previous information we were able to find the distribution of the venues. such that:



# Getting the number of tips for each Cofé shop:

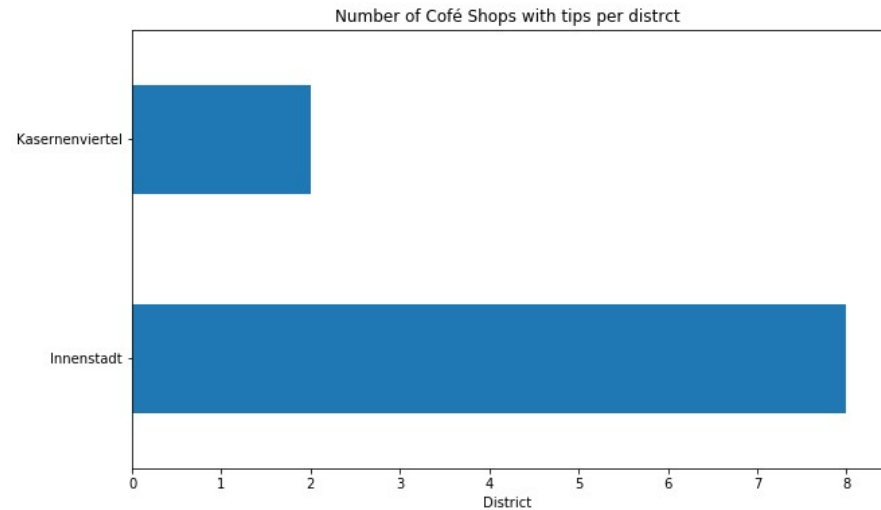
- Finding the best Cofé shop in the city based in the number of tips and its rating

Venue	Tips	Rating	District
Café Lola	11	7.3	Innenstadt
ANNA	9	8.9	Kasernenviertel
Café Rinaldi	8	7.0	Innenstadt
Café Scholz	7	6.9	Innenstadt
190 GRAD CAFÉ BAR RÖSTEREI Rehorik	7	8.5	Innenstadt
Paul's Boutique Cafebar	5	7.6	Innenstadt
Café Picasso	4	5.7	Innenstadt
Stehcafé im Milchschwammerl	4	7.0	Kasernenviertel
Café Felix	2	7.0	Innenstadt
Museums-Café	2	7.5	Innenstadt

## *Number of tips and Mean rating per district.*

- The number of tips and the mean rating per district for Cofé shops in Regensburg is used as a measure for the flow of people per district

District	Tips	Mean rating
Innenstadt	8	7.1875
Kasernenviertel	2	7.95
Ostenviertel	0	0.0



# Results:

The distribution of the Cofé shop over the city is of the form:

District	No. Cofé Shops
Innenstadt	22
Kasernenviertel	5
Ostenviertel	5
Großprüfening-Dechbetten-Königswiesen	0
Westenviertel	0
Brandlberg-Keilberg	0
Galgenberg	0

# Results:

This clearly show which that the worst places to open a Cofé shop are:

- Großprüfening-Dechbetten-Königswiesen
- Westenviertel
- Brandlberg-Keilberg
- Galgenberg

And the potential districts to open the Cofé shops clearly are:

- Innenstadt
- Kasernenviertel
- Ostenviertel

## Results:

The results for the number of Cofé shops per district including the mean rating per district are

District	No. Cofé shops with tips	Mean rating
Innenstadt	8	7.1875
Kasernenviertel	2	7.95

# Conclusions:

- We found that the Innenstadt district is the one with the highest number of Cofé shops.
- We found that the Innenstadt district has the highest number of tips.
- We found that the Innenstadt district has the Cofé shop with the highest number of tips.
- We found that the Innenstadt is the best district to open a new Cofé shop.



Thank you