BERLIN AIRBNB

Sevester

REFERENCES

- https://www.kaggle.com/danilzyryanov/crime-in-berlin-2012-2019
- https://www.kaggle.com/brittabettendorf/berlin-airbnb-data

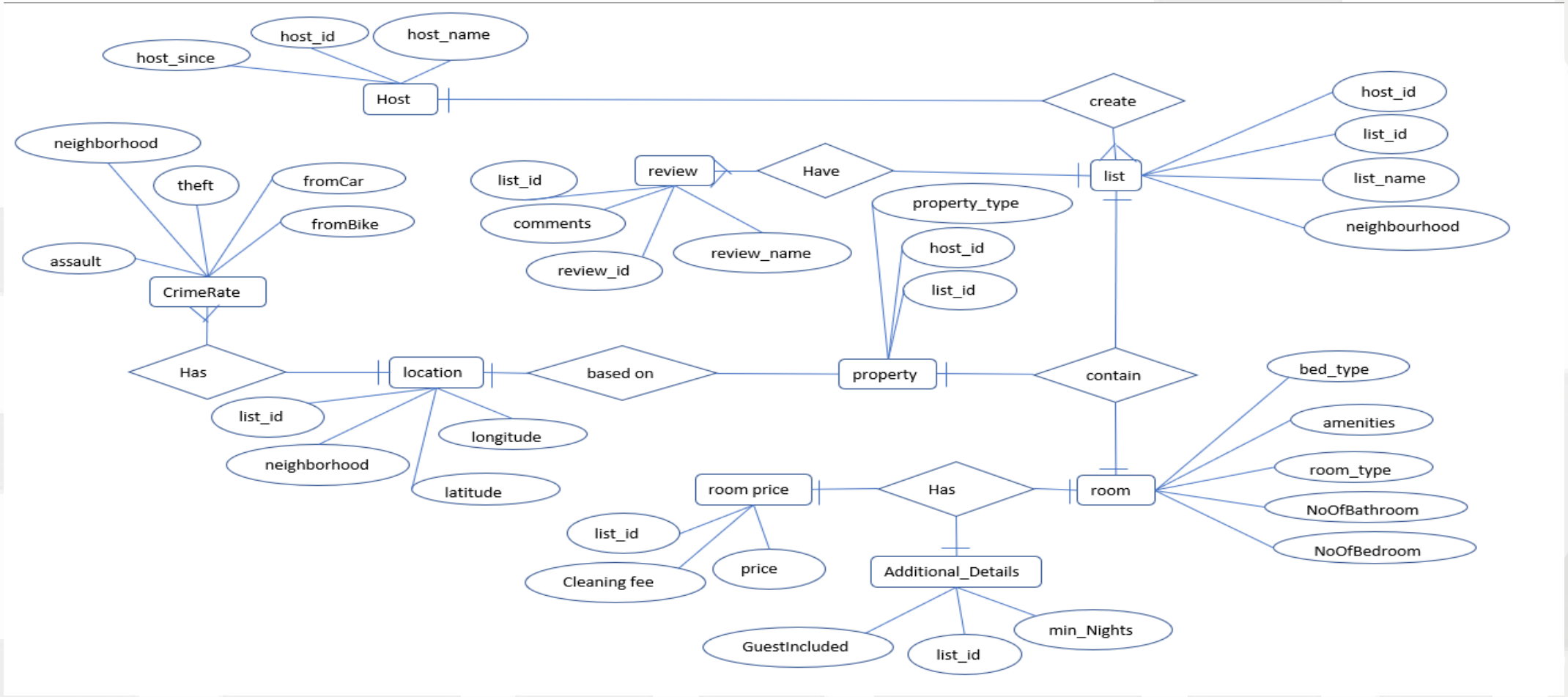
TARGET AUDIENCE

- Travelers

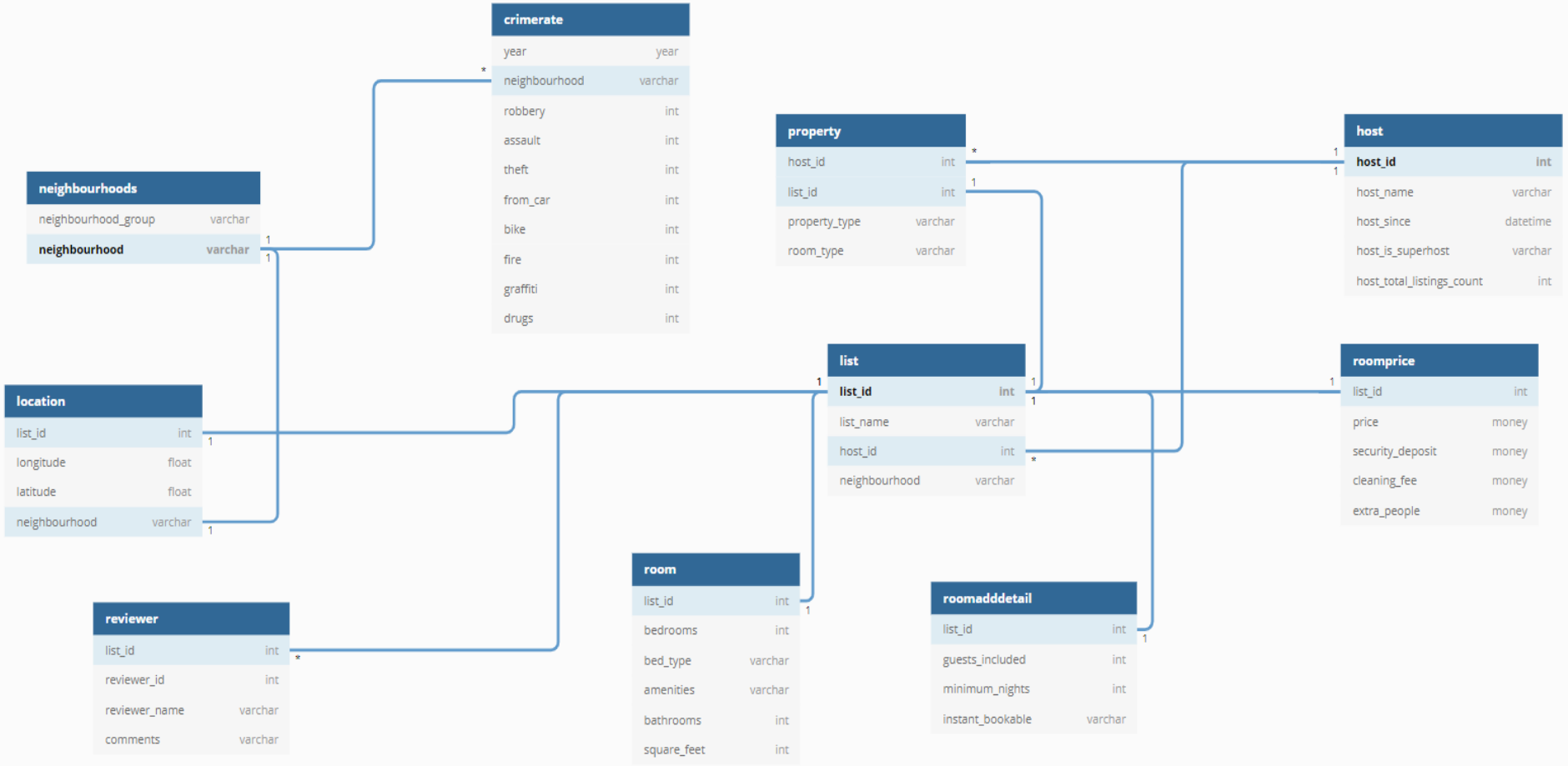
PROBLEM

- How dangerous the neighbourhood Travelers are visiting?
- What crimes are more common in the neighbourhood area
- The difference prices between each location? Distance from center of Berlin
- The average rating of each listings

ER DIAGRAM


host_id
host_name
host_since
Host
create
host_id
list_id
list_name
neighbourhood
neighborhood
theft
fromCar
fromBike
assault
CrimeRate
list_id
comments
review_id
review
review_name
Have
list
property_type
host_id
list_id
Has
location
based on
property
contain
list_id
longitude
neighborhood
latitude
bed_type
amenities
room_type
NoOfBathroom
NoOfBedroom
room price
Has
room
list_id
Cleaning fee
price
Additional_Details
GuestIncluded
list_id
min_Nights

DATABASE SCHEMATIC DIAGRAM



SQL DATA CLEANING

Select and create specific column from master table into new table

```
/** creating new table**/
select distinct
host_id, host_name, host_since,host_is_superhost,host_total_listings_count
into
host
from
listings_summary;

select
id as list_id,
name as list_name,
host_id,
neighbourhood
into list
from listings_summary;
```

SQL DATA CLEANING

Update value to standardize the value in different table

```
update location
set neighbourhood = 'Köllnische Vorstadt/Spindlersfeld'
where neighbourhood = 'Kölln. Vorstadt/Spindlersf.';

update location
set neighbourhood = 'MV 1 - Märkisches Viertel'
where neighbourhood = 'MV 1';
```

Delete rows that are not used/not appears in other table

```
delete from location
where neighbourhood = 'Baumschulenweg';

delete from crimerate
where neighbourhood = 'Bezirk (Ch-Wi), nicht zuzuordnen';
```

Update null value into 0

```
update roomprice
set cleaning_fee = 0
where cleaning_fee is null;
```

DATA CLEANING

Translating comment from different languages

```
=GOOGLETRANSLATE(B2,C2,"en")
```

B	C	D	E	F	G	H	I	J	K
Toen wij aankv	nl	When we arrived we called Gosia at the apartment and within five minutes she was coming. We were there because a little earlier than we ha							
Gosia's place w	en	Gosia's place was great - Just like in the Photos, very comfortable, plenty of room, well equipped, and overall fantastic. It's very close to the U							
Gosia heeft on	nl	Gosia has called us very welcome and gave us great tips about the city. The apartment is fine and exactly as we wanted: centrally located, cl							
El apartamento	es	The apartment is located in a quiet area very close to a supermarket (seen from the window) in which to stock up on everything you need for							
Uns hat die Wo	de	Us the apartment and the area has very much! The hostess was very accommodating, and what the arrival and departure concerned! We hav							
The Host: Whe	en	The Host: When Gosia welcomed me like an old friend does, I knew I chose the right place to stay in Berlin. Gosia promptly responded to my							
Gosia was an e	en	Gosia was an extremely wonderful host. We were running a few hours behind and was still very accommodating. When we arrived she gave							

SQL DATA ANALYSIS

```sql
select l.neighbourhood, count(case when r.bed_type = 'Real Bed' then 1 else null end) as RealBed,
count(case when r.bed_type = 'Futon' then 1 else null end) as Futon,
count(case when r.bed_type = 'Pull-out sofa' then 1 else null end) as Sofa,
count(case when r.bed_type = 'AirBed' then 1 else null end) as AirBed,
count(case when r.bed_type = 'Couch' then 1 else null end) as Couch
from room r
join list l
on r.list_id = l.list_id
group by neighbourhood;
```

```sql
select list_id, case when amenities like '%tv%' then 'Yes' else 'No' end as TV,
case when amenities like '%wifi%' then 'Yes' else 'No' end as Wifi
from room;
```

```sql
select l.list_id,l.neighbourhood, p.room_type, r.bedrooms ,r.bathrooms, rp.price , rp.cleaning_fee, rp.price+rp.cleaning_fee as TotalPrice
from list l
join room r on l.list_id=r.list_id
join property p on r.list_id = p.list_id
join roomprice rp on p.list_id=rp.list_id;
```

SQL DATA ANALYSIS

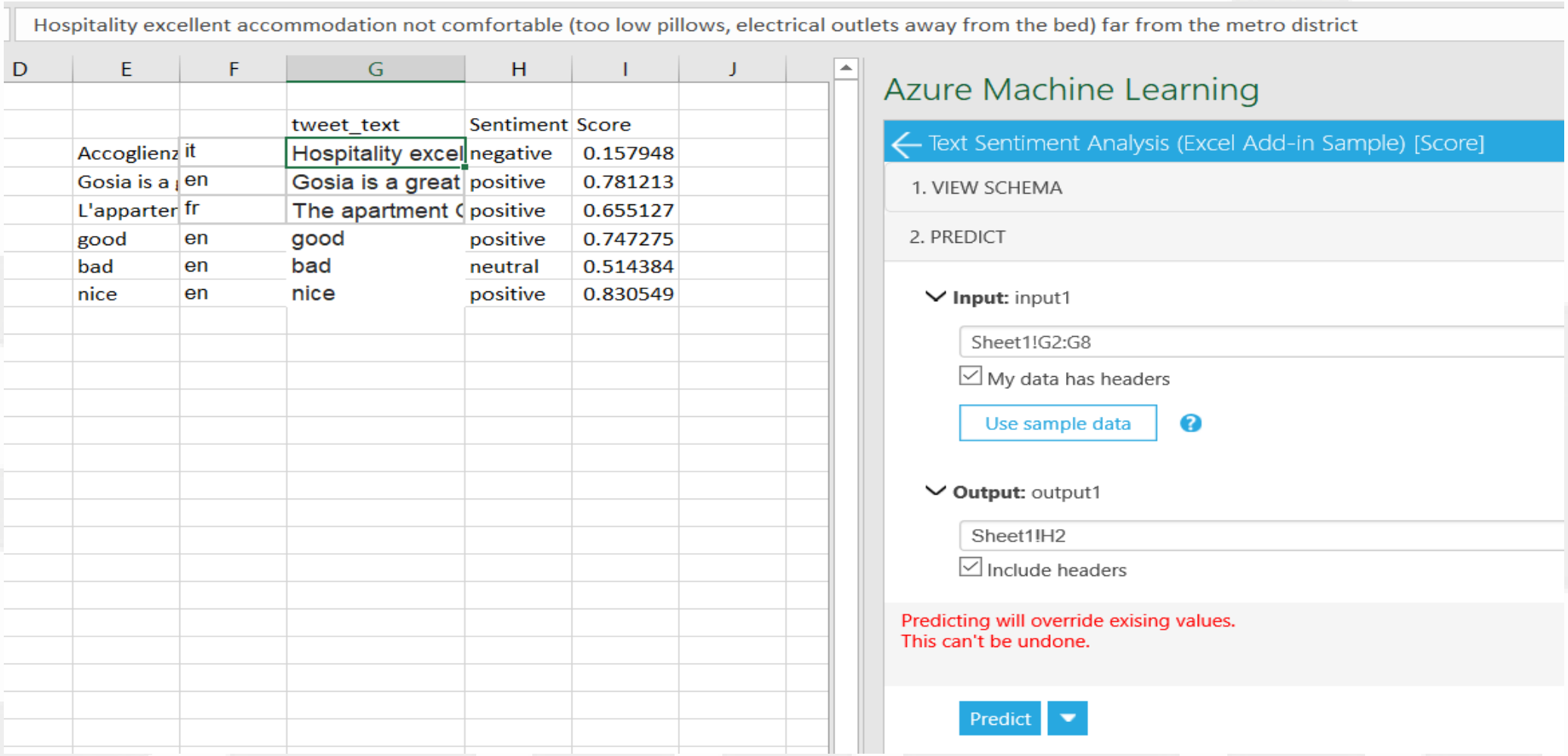
```sql
select l.list_id,l.neighbourhood, r.guests_included,r.minimum_nights,l1.List_name
from location l
join roomadddetail r
on l.list_id = r.list_id
join listings1 l1
on l.list_id = l1.id;


select l.list_id,r.reviewer_id,l.neighbourhood,r.reviewer_name,comments,l1.list_name from list l
join reviewer r
on l.list_id=r.list_id
join listings1 l1
on l.list_id = l1.id;
select neighbourhood, sum(robbery) as TotalRobbery, sum(assault) as TotalAssault, sum(theft) as TotalTheft, sum(from_car) as TotalCar,sum(bike) as TotalBike,
sum(fire) as TotalFire ,sum(robbery + assault + theft + from_car + bike + fire) as TotalCrime from crimerate
group by neighbourhood;

select l.list_id, l.neighbourhood, ll.latitude, ll.longitude,ll.price
from location l
join listings ll
on l.list_id = ll.id;
```

DATA ANALYSIS

=ACOS((SIN(D3*PI()/180)*SIN(52.5373*PI()/180)+

B	C	D	E	F	G	H	I
list_id	neighbourhood	latitude	longitude	price	Distance from Centre of Berlin in Miles	Distance from Centre of Berlin in KM	
2015	Brunnenstraße Süd	52.53454	13.40256	60	1.553860174	2.500689333	
2695	Prenzlauer Berg Nordwest	52.54851	13.40455	17	1.752459616	2.820303358	
3176	Prenzlauer Berg Südwest	52.535	13.41758	90	2.098735959	3.377579729	
3309	Schöneberg-Nord	52.49885	13.34906	26	2.347088	3.777262602	
7071	Helmholtzplatz	52.54316	13.41509	42	2.033734028	3.272969521	
9991	Prenzlauer Berg Südwest	52.53303	13.41605	180	2.054293048	3.306055973	
14325	Prenzlauer Berg Nordwest	52.54785	13.40556	70	1.771867389	2.851537064	
16401	Frankfurter Allee Süd FK	52.51051	13.45785	120	3.914005762	6.298966033	
16644	nördliche Luisenstadt	52.50479	13.4351	90	3.361898097	5.410437083	
17409	Prenzlauer Berg Südwest	52.52907	13.41284	45	1.983818662	3.192638725	
17904	Reuterstraße	52.49548	13.42182	49	3.373951084	5.429834438	
20858	Prenzlauer Berg Südwest	52.53695	13.40762	129	1.729970332	2.784110455	
21869	nördliche Luisenstadt	52.50273	13.43462	70	3.421331682	5.506085929	
22415	südliche Luisenstadt	52.49485	13.4285	98	3.568385819	5.742746034	

DATA ANALYSIS



EXCEL DATA VISUALIZATION

CONCLUSION

- Able to identify which neighbourhood are more dangerous than the others
- Able to identify which listings are more value for money
- Able to plan their budget wisely for accommodation
- Able to identify the room they renting for solo/groupies Travelers
- Overall sentiment of Airbnb in Berlin
- Most common language used by Travelers in Berlin