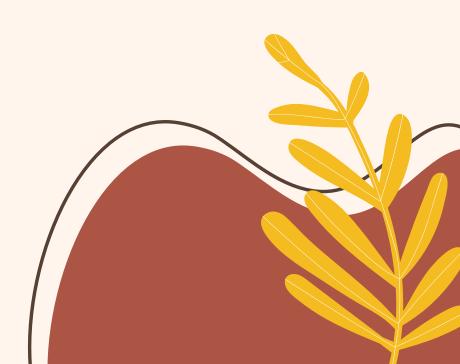


DSCO FINAL



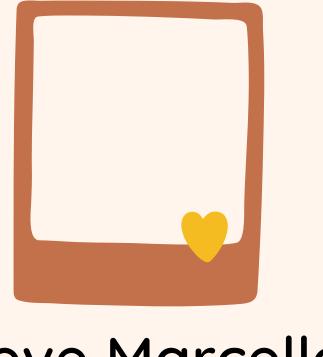




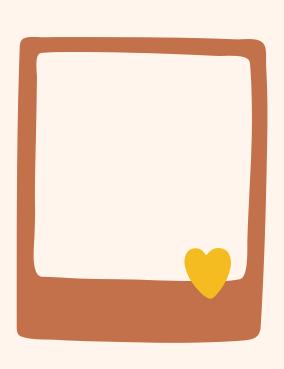




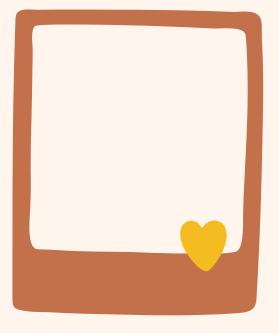
Our Team



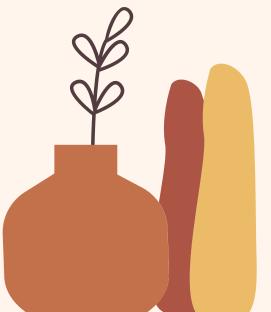
Steve Marcello Liem



Davin Edbert Santoso Halim



Brandon Ritchie Yang



Problem Understanding

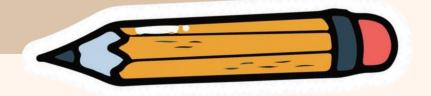


Problem:

Hard to find the best hotel according to someone's needs and preferences on a vacation

Goal:

Hotel Recommendation System



hotel_price_min_max - Formula

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 9094 entries, 0 to 9093
Data columns (total 6 columns):
    Column
              Non-Null Count Dtype
    hotelcode 9094 non-null int64
    min 9094 non-null float64
    max 9094 non-null float64
    Diff_Min 9094 non-null float64
    Diff Max 9094 non-null
                            float64
    Score
                            float64
              9094 non-null
dtypes: float64(5), int64(1)
memory usage: 426.4 KB
```

Hotel_details (NULL Values)

id	0
hotelid	0
hotelname	0
address	5093
city	0
country	0
zipcode	24562
propertytype	0
starrating	0
latitude	0
longitude	0
Source	0
url	111
curr	0
dtype: int64	

hotel_RoomPrice (NULL Values)

id	0
refid	0
hotelcode	0
websitecode	0
dtcollected	0
ratedate	0
los	0
guests	0
roomtype	0
onsiterate	0
netrate	0
currency	0
ratedescription	4819
ratetype	4819
sourceurl	0
roomamenities	4819
maxoccupancy	0
ispromo	0

closed	0
discount	0
promoname	162696
status_code	0
taxstatus	0
taxtype	8370
taxamount	0
proxyused	0
israteperstay	0
mealinclusiontype	68486
hotelblock	161054
input_dtcollected	0
dtype: int64	

```
In [40]: columns_to_select = ['id', 'hotelcode', 'roomamenities', 'roomtype', 'ratedescription']
            h_rprice_check = h_rprice[columns_to_select]
            # Now df4 check contains only the specified columns from df4
            h rprice check.head()
Out[40]:
                        id hotelcode
                                                                   roomamenities
                                                                                              roomtype
                                                                                                                                        ratedescription
             0 50677497
                               634876 Air conditioning: ;Alarm clock: ;Carpeting: ;C...
                                                                                           Double Room
                                                                                                              Room size: 15 m2/161 ft2, Shower, 1 king bed
             1 50672149
                             8328096
                                        Air conditioning: ;Closet: ;Fireplace: ;Free W...
                                                                                         Vacation Home Shower, Kitchenette, 2 bedrooms, 1 double bed ...
             2 50643430
                             8323442 Air conditioning: ;Closet: ;Dishwasher: ;Firep...
                                                                                          Vacation Home Shower, Kitchenette, 2 bedrooms, 1 double bed ...
             3 50650317
                                 7975 Air conditioning: ;Clothes rack: ;Coffee/tea m... Standard Triple Room
                                                                                                           Room size: 20 m<sup>2</sup>/215 ft<sup>2</sup>, Shower, 3 single beds
              4 50650318
                                 7975 Air conditioning: :Clothes rack: :Coffee/tea m... Standard Triple Room
                                                                                                           Room size: 20 m<sup>2</sup>/215 ft<sup>2</sup>, Shower, 3 single beds
In [41]: hr att.head()
Out[41]:
                        id hotelcode
                                                                   roomamenities
                                                                                              roomtype
                                                                                                                                        ratedescription
             0 50677497
                               634876 Air conditioning: ;Alarm clock: ;Carpeting: ;C...
                                                                                                              Room size: 15 m2/161 ft2, Shower, 1 king bed
                                                                                           Double Room
              1 50672149
                             8328096
                                       Air conditioning: ;Closet: ;Fireplace: ;Free W...
                                                                                         Vacation Home Shower, Kitchenette, 2 bedrooms, 1 double bed ...
             2 50643430
                             8323442 Air conditioning: ;Closet: ;Dishwasher: ;Firep...
                                                                                          Vacation Home Shower, Kitchenette, 2 bedrooms, 1 double bed ...
             3 50650317
                                 7975 Air conditioning: ;Clothes rack: ;Coffee/tea m... Standard Triple Room
                                                                                                           Room size: 20 m<sup>2</sup>/215 ft<sup>2</sup>, Shower, 3 single beds
             4 50650318
                                 7975 Air conditioning: ;Clothes rack: ;Coffee/tea m... Standard Triple Room
                                                                                                           Room size: 20 m<sup>2</sup>/215 ft<sup>2</sup>, Shower, 3 single beds
In [43]: are equal = h rprice check.equals(hr att)
            if are equal:
                  print("DataFrames a and b are equal.")
            else:
                  print("DataFrames a and b are not equal.")
            DataFrames a and b are equal.
```

hotel_RoomPrice Hypothesis

```
df_price_drop['closed'].value_counts()
        161054
          4819
   Name: closed, dtype: int64
[9] df_price['hotelblock'].value_counts()
    Sold out
                 4819
    Name: hotelblock, dtype: int64
   df_price_drop['onsiterate'].value_counts()
  0.00
             4819
   95.03
             971
   104.54
             970
   89.75
              901
   79.19
              787
```

```
df_price_drop['status_code'].value_counts()
            161054
     200
              4819
     201
     Name: status_code, dtype: int64
[27] df_price_drop['taxstatus'].value_counts()
           161054
             4819
     Name: taxstatus, dtype: int64
[28] df_price_drop['israteperstay'].value_counts()
          161054
            4819
     Name: israteperstay, dtype: int64
```

hotel_RoomPrice
Output

```
result_closed = df_price_drop[(df_price_drop['closed'] == 'Y') &
                               (df_price_drop['ratetype'].isnull()) &
                               (df_price_drop['ratedescription'].isnull()) &
                               (df_price_drop['roomamenities'].isnull()) &
                               (df_price_drop['hotelblock'] == 'Sold out') &
                               (df price drop['israteperstay'] == 'N') &
                               (df_price_drop['taxstatus'] == -1) &
                               (df price drop['status code'] == 201) &
                               (df price drop['onsiterate'] == 0.00)]
count closed = result closed.shape[0]
print(f"Count Closed: {count closed}")
Count Closed: 4819
```

Data Preprocessing

hotel_price_min_max - Formula

Drop

Diff_Min
Diff_Max
Score

hotel_RoomPrice

Drop

id zipcode latitude longitude Source url hotel_RoomPrice

Drop Null

roomtype
roomamenities
ratedescriptio
n

Impute Null

promoname -> 'none'
mealinclusiontype -> 'no meal'
taxtype -> 'none'

Drop

id

refid websitecode

los

guests

currency

dtcollected

input_dtcollected

ratedate

sourceurl

proxyused

taxamount

hotelblock



Data Preprocessing

merged_df

<class 'pandas.core.frame.DataFrame'> Int64Index: 176121 entries, 0 to 176120 Data columns (total 26 columns): Column Non-Null Count Dtype 176121 non-null int64 hotelcode 176121 non-null object roomtype onsiterate 176121 non-null float64 netrate 176121 non-null float64 ratedescription 176121 non-null object 176121 non-null object ratetype roomamenities 176121 non-null object 176121 non-null int64 maxoccupancy ispromo 176121 non-null object closed 176121 non-null object 10 discount 176121 non-null float64 11 promoname 176121 non-null object 176121 non-null int64 12 status code

13	taxstatus	176121 non-null	int64
14	taxtype	176121 non-null	object
15	israteperstay	176121 non-null	object
16	mealinclusiontype	176121 non-null	object
17	hotelname	176121 non-null	object
18	address	176121 non-null	object
19	city	176121 non-null	object
20	country	176121 non-null	object
21	propertytype	176121 non-null	object
22	starrating	176121 non-null	int64
23	curr	176121 non-null	object
24	min	176121 non-null	float64
25	max	176121 non-null	float64
dtyp	es: float64(5), int	64(5), object(16)	

memory usage: 36.3+ MB

[102] merged_df.head() hotelcode roomtype onsiterate netrate roomamenities maxoccupancy ispromo closed ... mealinclusiontype country propertytype starrating curr min max ratetype Air conditioning: ;Alarm clock: Room size: 15 m²/161 ft², Shower, The Old Cider 25 Castle 634876 Double Room 82.36 Cancellation policy Free Breakfast 4 GBP 82.36 107.7 Room size: 15 m²/161 ft², Shower, Air conditioning: ;Alarm clock: Free breakfast for The Old Cider 25 Castle Nether United 107.70 634876 Double Room Cancellation policy Hotels 4 GBP 82.36 107.7 ;Carpeting: ;C... 1 king bed Room size: 17 m²/183 ft², Shower, Extra low price! (non-Air conditioning: ;Alarm clock: Free breakfast for The Old Cider 25 Castle Nether United 4 GBP 82.36 107.7 Carpeting: ;C.. Room size: 17 m2/183 ft2, Shower, Air conditioning: ;Alarm clock: Free breakfast for The Old Cider 25 Castle Nether United 4 GBP 82.36 107.7 634876 Superior Double Room Room size: 13 m²/140 ft², Shower, Air conditioning: ;Alarm clock: The Old Cider Standard Double or Extra low price! (non-United Free Breakfast Hotels 4 GBP 82.36 107.7 ;Carpeting: ;C... Twin Room 1 queen bed. Kingdom 5 rows × 26 columns

```
[96] merged_df['country'].value_counts()
United Kingdom
                       65750
     France
                       24427
                       18177
     Spain
     Italy
                       16668
                       16016
     Germany
     Greece
                       3955
     Poland
                       3704
                        3650
     Portugal
     Netherlands
                        3595
     Switzerland
                        3036
     Austria
                        2258
     Czech Republic
                        2011
     Belgium
                        1793
                        1426
     Romania
     Malta
                        1215
                        1169
     Hungary
                        1144
     Sweden
     Denmark
                        861
     Ireland
                        850
     Bulgaria
                         770
                        625
     Croatia
                         614
     Cyprus
     Latvia
                         505
     Slovenia
                         497
     Estonia
                         354
                         337
     Finland
                         320
     Lithuania
     Slovakia
                         248
                         146
     Luxembourg
     Name: country, dtype: int64
```

```
[77] merged_df['roomtype'].value_counts()
    Double Room
                                                      8724
     Twin Room
                                                      4682
    Single Room
                                                      4564
    Standard Double Room
                                                       4450
    Triple Room
                                                       3961
                                                       . . .
    One-Bedroom Bungalow
    Junior King Suite with Sofa Bed
    Double Studio Apartment
    Triple Studio Apartment
    Double Room (Hotel, 3-star category) - Cat. A
    Name: roomtype, Length: 8259, dtype: int64
```

```
[92] merged_df['mealinclusiontype'].value_counts()
     No meal
                                       69324
     Free Breakfast
                                       51020
     Free breakfast for {2}
                                       34868
     Free breakfast for {3}
                                        5883
     Free Breakfast Dinner
                                       4746
                                       _ _ _
     Free breakfast for {15} Lunch
     Free breakfast for {14} Lunch
     Free breakfast for {13} Lunch
     Free breakfast for {12} Lunch
                                           1
     Free Breakfast Welcome drink
     Name: mealinclusiontype, Length: 89, dtype: int64
```

```
[95] merged_df['city'].value_counts()
     London
                     13077
     Paris
                      7403
                      2322
     Rome
     Edinburgh
                      2286
     Barcelona
                      2235
     Veysonnaz
     Lanlivery
     Albinyana
     Tulfes
     Newcastleton
     Name: city, Length: 4708, dtype: int64
```

EDA

```
merged_df['propertytype'].value_counts()
Hotels
                      174105
Resorts
                        1391
Motels
                         193
Bed and breakfasts
                         185
Holiday parks
                         173
                          56
Inns
Campsites
                          18
Name: propertytype, dtype: int64
```

```
merged_df['hotelname'].value_counts()
Millennium Mayfair
                                                             352
Hilton Garden Inn Stuttgart NeckarPark Hotel
                                                             326
100 Queen's Gate Hotel London, Curio Collection by Hilton
                                                             305
 Best Western L'Orangerie
                                                             281
Doubletree by Hilton Dartford Bridge
                                                             269
 2 Middle Gabberwell
 Ocean Blue
 Magpie Cottage
Montgomery - Meadow Place Room
 Hotel Clementin Old Town
 Name: hotelname, Length: 9462, dtype: int64
```

```
merged_df['maxoccupancy'].value_counts()
      91663
      65793
       11616
4
       5515
        734
6
        540
8
        117
         66
10
         30
9
         14
12
         11
13
14
           4
11
15
           3
17
           2
24
           2
16
           1
 20
Name: maxoccupancy, dtype: int64
```

```
[98] merged_df['starrating'].value_counts()

4   89134
3   74749
2   12238
Name: starrating, dtype: int64
```

```
[78] merged_df['onsiterate'].value_counts()
    104.54
              1078
    95.03
              1056
    89.75
               983
    79.19
               864
    93.98
               801
    190.10
                 1
    203.09
                 1
    215.17
    189.21
    903.57
    Name: onsiterate, Length: 23794, dtype: int64
      merged_df['curr'].value_counts()
      EUR
               104925
```

GBP

CHF

SEK

DKK

PLN

RON

BGN

65750

3036

1144

861

237

106

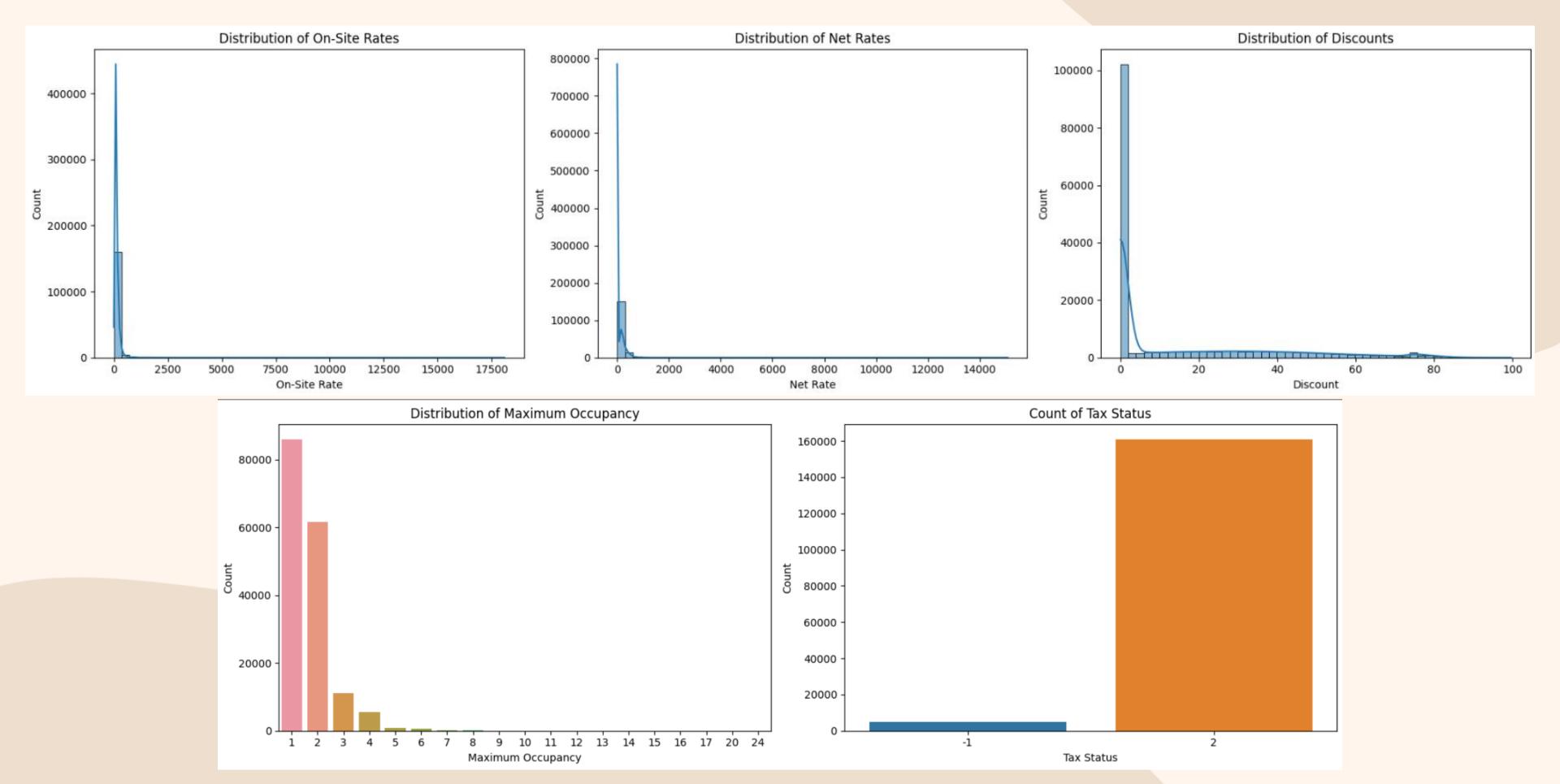
Name: curr, dtype: i

62

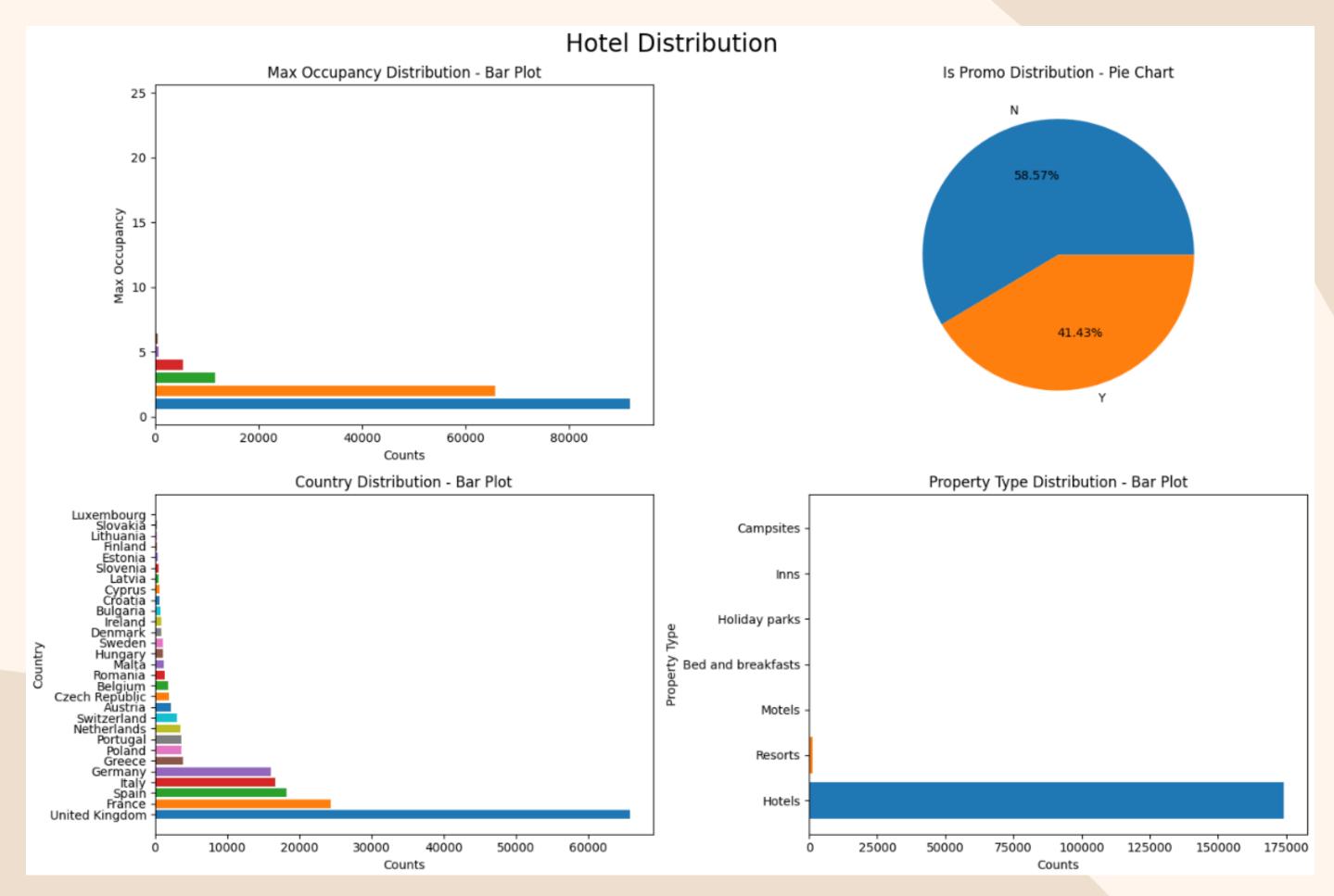
```
EDA
```

```
merged_df['ratedescription'].value_counts()
Free Wi-Fi, Extra low price! (non-refundable)
                                                                                                          7212
     Free Wi-Fi, Cancellation policy
                                                                                                          3720
     Free Breakfast, Free Wi-Fi, Extra low price! (non-refundable)
                                                                                                          1503
     Free Breakfast, Free Wi-Fi, Cancellation policy
                                                                                                          1497
     Shower, 1 double bed
                                                                                                          1323
     Room size: 12 m<sup>2</sup>/129 ft<sup>2</sup>, Shower and bathtub, 1 double bed and 1 bunk bed
                                                                                                             1
     Free Breakfast, Pay at the hotel, Free Wi-Fi, Free cancellation before December 4, 2019
                                                                                                             1
     Room size: 34 m<sup>2</sup>/366 ft<sup>2</sup>, Shower, 1 double bed and 1 sofa bed
                                                                                                             1
     Room size: 45 m<sup>2</sup>/484 ft<sup>2</sup>, 2 single beds and 2 sofa beds
                                                                                                             1
    Room size: 15 m<sup>2</sup>/161 ft<sup>2</sup>, Balcony/terrace, 2 single beds
                                                                                                             1
    Name: ratedescription, Length: 13944, dtype: int64
```

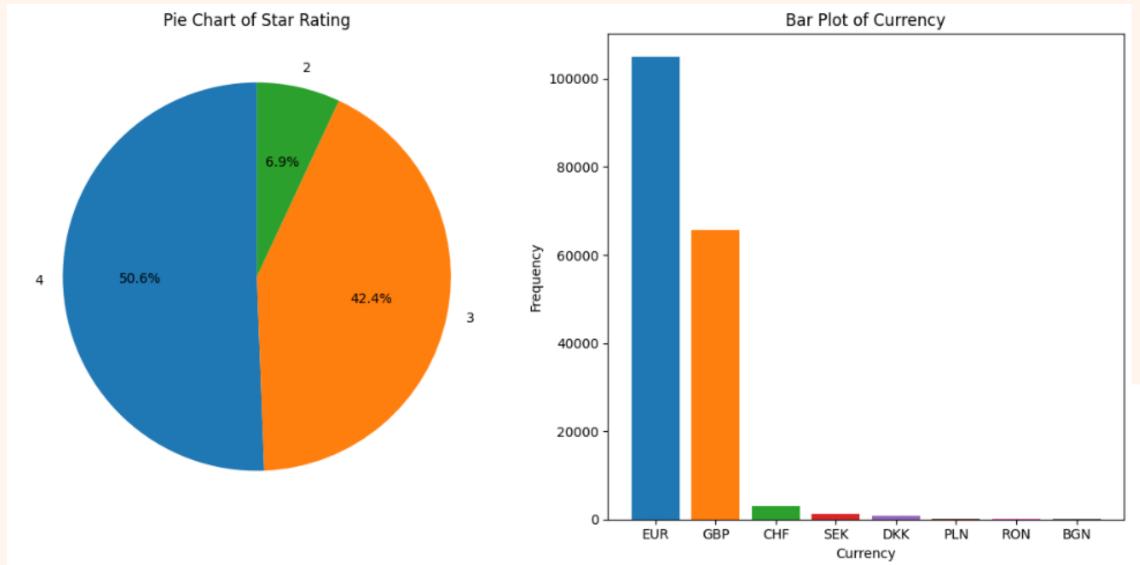


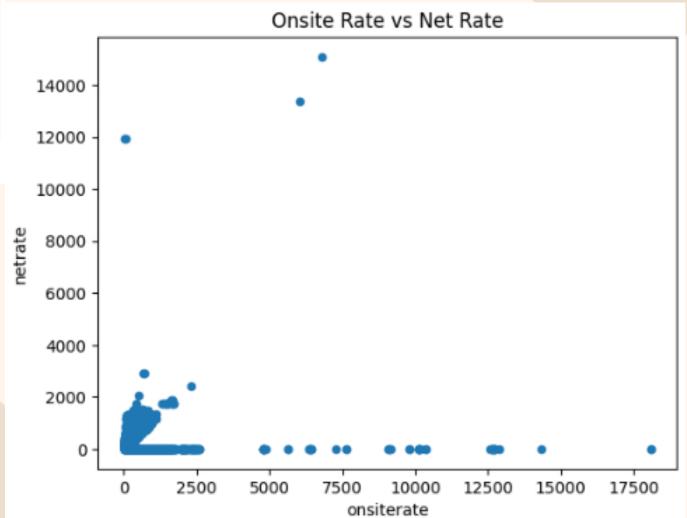




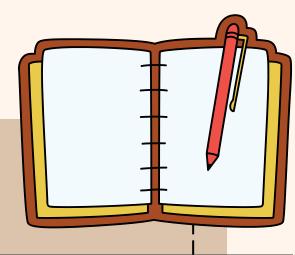


EDA





Feature Engineering



```
def clean_title(title):
    if title is None:
        return ""
    return re.sub("[^a-zA-Z0-9]", "", title)
```

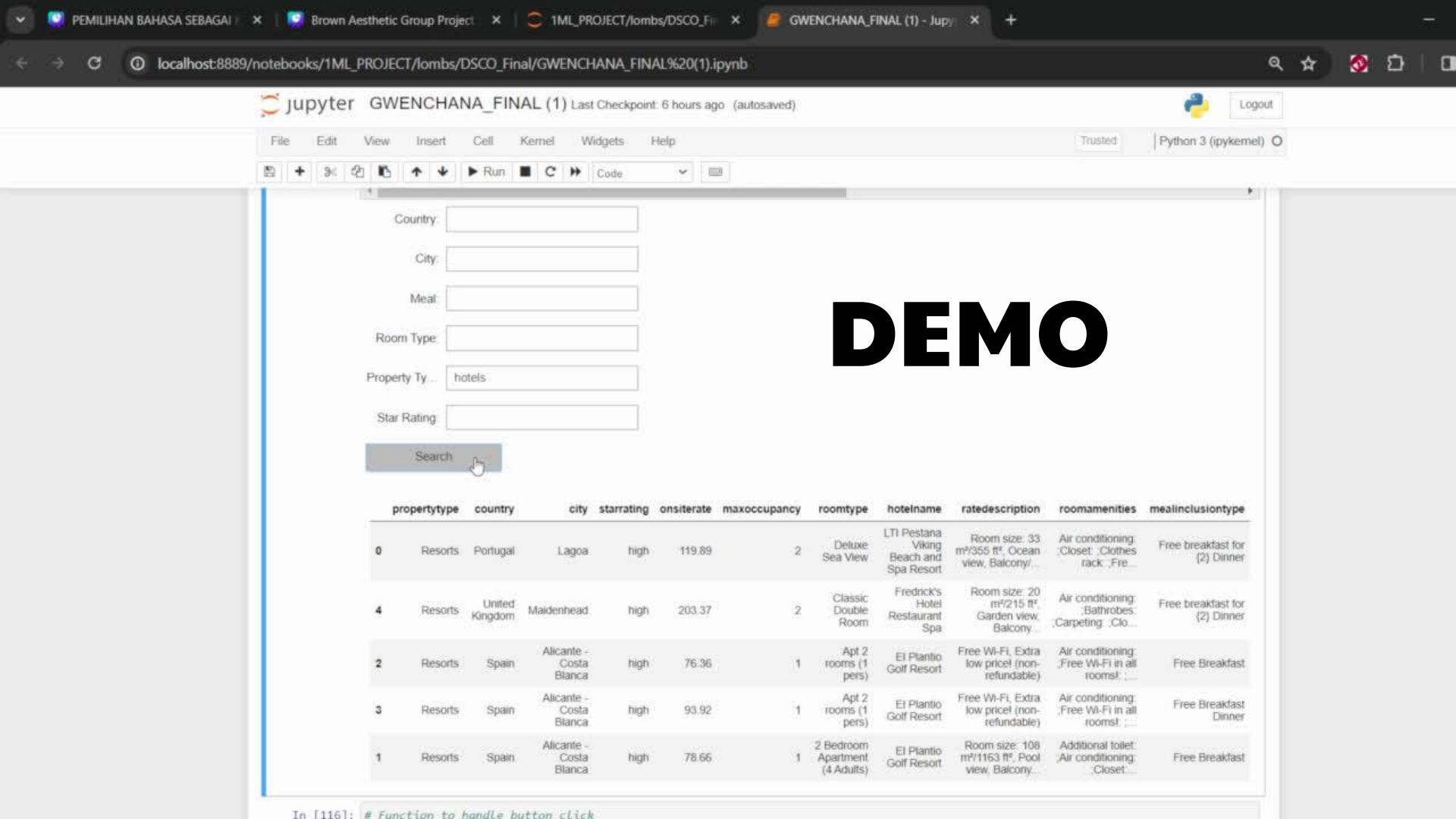
TF-IDF

```
# Vectorizer for meal inclusion type
vectorizer_meal = TfidfVectorizer(ngram_range=(1, 2))
tfidf_meal = vectorizer_meal.fit_transform(df_token["mealinclusiontype"].apply(clean_title))

# Search function for meal
def search_meal(meal):
    meal = clean_title(meal)
    query_vec = vectorizer_meal.transform([meal])
    similarity = cosine_similarity(query_vec, tfidf_meal).flatten()
    indices = np.argpartition(similarity, -5)[-5:]
    results = merged_df.iloc[indices][::-1]
    return results
```

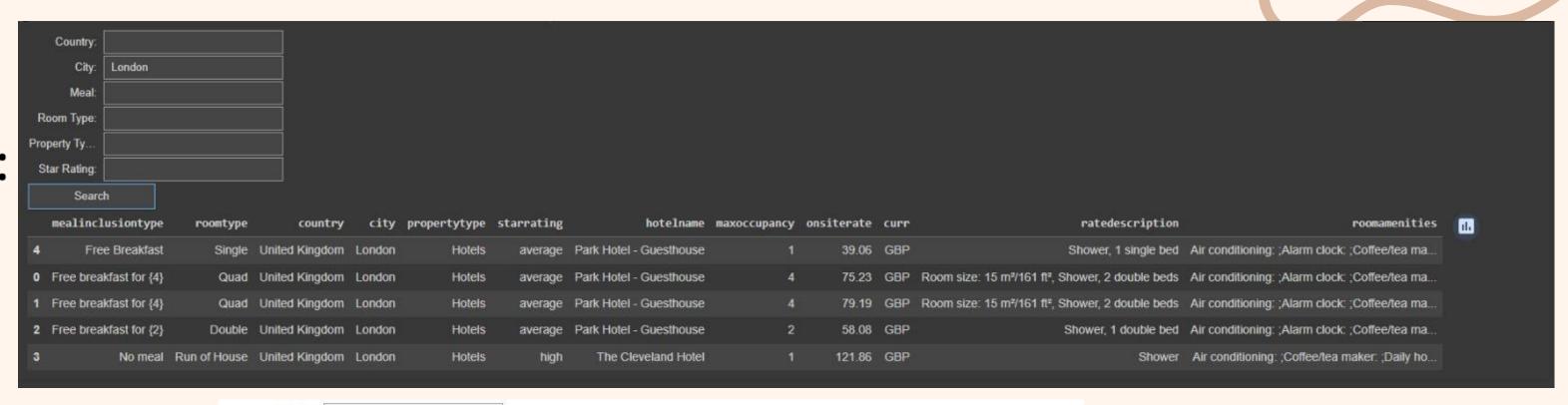
MODELLING

```
if not combined_results.empty:
   # Calculate length difference
    combined_results['length_diff'] = combined_results.apply(lambda_row: abs(len(row['roomtype']) - row['query_length']) if 'roomtype' in row else abs(len(row['mealinclusiontype']) - row['query_length']), axis=1)
    # Add randomness: Shuffle the order of results
    combined results = combined results.sample(frac=1).reset index(drop=True)
    # Sort by length difference (and other criteria if needed)
    combined results = combined results.sort values(by='length diff', ascending=True)
if not combined_results.empty:
    # Calculate length difference
    combined_results['length_diff'] = combined_results.apply(lambda row: abs(len(row['roomtype']) - row['query_length']) if 'roomtype' in row else abs(len(row['mealinclusiontype']) - row['query_length']), axis=1)
    # Add randomness: Shuffle the order of results
    combined results = combined results.sample(frac=1).reset index(drop=True)
    # Sort by length difference (and other criteria if needed)
    combined results = combined results.sort_values(by='length diff', ascending=True)
                             Country: United Kingdom
                                City: London
                               Meal: Free Breakfast
                           Room Type: Single
                          Property Ty...
                           Star Rating: Lows
                               Search
                                                                    city propertytype starrating
                                                                                                               hotelname maxoccupancy onsiterate curr
                                                                                                          Salles Pere IV Hotel
                                                                                                                                                      Free Wi-Fi, Extra low price! (non-refundable) Air conditioning: ;Free Wi-Fi in all rooms!:
                                                                                          high
                                                                                                                                 1 100.08 EUR
                                                            Spain Barcelona
                                                                               Hotels
                                                                                                          Salles Pere IV Hotel
                                                                                                                                                      Free Wi-Fi, Extra low price! (non-refundable) Air conditioning: ;Free Wi-Fi in all rooms!:
                                                                               Hotels
                                                                                          high
                                                                                                                                        115.96 EUR
                                                                                                                                                                                       Air conditioning: ;Closet: ;Free Wi-Fi in all ..
                                                                                                                                        83.38 EUR Room size: 10 m²/108 ft², Non-smoking, Shower,...
                                                                                           low Hotel Sacre Coeur Paris Montmartre
                                                                                                                                        113.33 EUR
                                                                                                                                                               Hotels
                                                                                                                                        39.06 GBP
                                                                                                                                                                      Shower, 1 single bed Air conditioning: ,Alarm clock: ;Coffee/tea ma...
                                                                                                       Park Hotel - Guesthouse
```





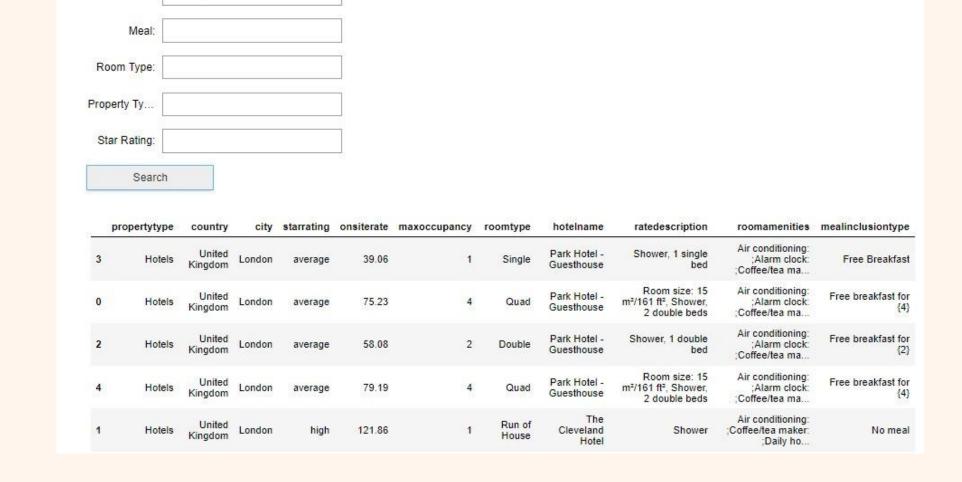
Precision@5: 5/5 = 1

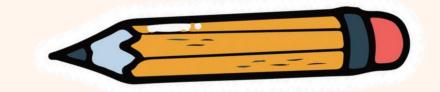


Precision@5: 5/5 = 1

Country:

City: london







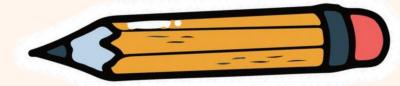
Country:

Precision@5: 5/5 = 1

Countr	ry:												
Cit	ty:												
Mea	al: No Meal												
Room Typ	ie:												
Property Ty.													
Star Ratin	ıg:												
Se	arch												
mealir	nclusiontype	roomtype	country	city	propertytype	starrating	hotelname	maxoccupancy	onsiterate	curr	ratedescription	roomamenities	115
0	No meal	Standard 2 Single Berds	France	Chartres	Hotels	4	Hotel Campanile Chartres Centre	1	99.46	EUR	Room size: 20 m²/215 fl², 2 single beds	Air conditioning: ;Coffee/tea maker: ;Free Wi	
2	No meal	Standard 2 Single Berds	France	Chartres	Hotels	4	Hotel Campanile Chartres Centre	1	84.54	EUR	Room size: 20 m²/215 fl², 2 single beds	Air conditioning: ;Coffee/tea maker: ;Free Wi	
4	No meal	Standard Room 1 Queen Bed	France	Chartres	Hotels	4	Hotel Campanile Chartres Centre	1	110.16	EUR	Room size: 25 m²/269 ft², Non-smoking, 1 singl	Air conditioning: ;Coffee/lea maker: ;Free Wi	
3	No meal	2 Single Beds, standard room	France	Merignac	Hotels	3	Kyriad Bordeaux Ouest - Merignac Aeroport	1	903.57	EUR	Room size: 20 m²/215 fl², 2 single beds	Air conditioning: ;Free Wi-Fi in all rooms!: ;	
1	No meal	Family Room (2 Adults + 1 Child)	United Kingdom	Little Dean	Hotels	3	Littledean House Hotel	2	101.37	GBP	Room size: 12 m²/129 ft², Shower, 1 single bed	Air conditioning: ;Alarm clock: ;Carpeting: ;C	

Precision@5: 5/5 = 1







Precision@5: 5/5 = 1

€	Country:											
	City:											
	Meal:											
Ro	oom Type:											
Prop	perty Ty Resorts											
Sta	ar Rating:											
	Search											
	mealinclusiontype	roomtype	country	city	propertytype	starrating	hotelname	maxoccupancy	onsiterate cur	r ratedescription	roomamenities	11:
1	Free breakfast for {2} Dinner	Deluxe Sea View	Portugal	Lagoa	Resorts	high	LTI Pestana Viking Beach and Spa Resort	2	119.89 EU	Room size: 33 m²/355 ft², Ocean view, Balcony/	Air conditioning: ;Closet: ;Clothes rack: ;Fre	
3	Free breakfast for {2} Dinner	Classic Double Room	United Kingdom	Maidenhead	Resorts	high	Fredrick's Hotel Restaurant Spa	2	203.37 GE	Room size: 20 m²/215 ft², Garden view, Balcony	Air conditioning: ;Bathrobes: ;Carpeting; ;Clo	
0	Free Breakfast Dinner	Apt 2 rooms (1 pers)	Spain	Alicante - Costa Blanca	Resorts	high	El Plantio Golf Resort	1	93.92 EU	R Free Wi-Fi, Extra low price! (non- refundable)	Air conditioning: ;Free Wi-Fi in all rooms!: ;	
2	Free Breakfast	Apt 2 rooms (1 pers)	Spain	Alicante - Costa Blanca	Resorts	high	El Plantio Golf Resort	1	76.36 EU	R Free Wi-Fi, Extra low pricel (non- refundable)	Air conditioning: ;Free Wi-Fi in all rooms!: ;	
4	Free Breakfast	2 Bedroom Apartment (4 Adults)	Spain	Alicante - Costa Blanca	Resorts	high	El Plantio Golf Resort		78.66 EU	R Room size: 108 m²/1163 ft², Pool view, Balcony	Additional toilet: ;Air conditioning: ;Closet:	

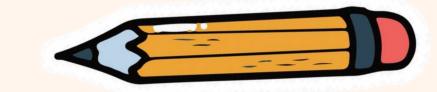
Precision@5: 5/5 = 1

Country:

City:

Meal:





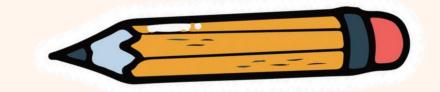


Precision@5: 4/5 = 0.8

Country: United Kingd	om											
Meal: Breakfast												
Room Type:												
Property Ty												
Star Rating:												
Search			20444									
mealinclusiontype	roomtype	country	city	propertytype	starrating	hotelname	maxoccupancy	onsiterate	curr	ratedescription	roomamenities	113
5 Free Breakfast	Double Room	United Kingdom	Nether Stowey	Hotels	4	The Old Cider House		82.36	GBP	Room size: 15 m²/161 ft², Shower, 1 king bed	Air conditioning: ;Alarm clock: ;Carpeting: ;C	
1 Free Breakfast	Superior Room	Austria	Graz	Hotels	4	Augarten Art Hotel		108.12	EUR	Room size: 24 m²/258 ft², Bathtub, 1 king bed	Air conditioning: ;Bathrobes: ;Closet: ;Desk:	
o Free breakfast for {2}	Private Room Sleeps 2	United Kingdom	Bournemouth	Hotels	average	Klikaway	2	76.03	GBP	Room size: 15 m²/161 ft², Shower, 2 bunk beds	Air conditioning: ;Closet: ;Coffee/tea maker	
2 Free Breakfast for 1	Executive Double Room	United Kingdom	Derby	Hotels	high	Hallmark Hotel Derby Mickleover Court		118.77	GBP	Room size: 17 m²/183 ft², Garden view, Balcony	Air conditioning: ;Alarm clock: ;Carpeting: ;C	
3 Free Breakfast for 1	Executive Double Room	United Kingdom	Derby	Hotels	high	Hallmark Hotel Derby Mickleover Court		120.79	GBP	Room size: 17 m²/183 ft², Garden view, Balcony	Air conditioning: ;Alarm clock: ;Carpeting: ;C	

Precision@5: 4/5 = 0.8

9	Country:	united king	dom	79							
	City:			50							
	Meal:	breakfast									
Roo	om Type:										
Prope	erty Ty										
Sta	r Rating:										
	Search	i									
	70717										
		onsiterat	ratedescription	roomamenities	maxoccupancy	mealinclusiontype	hotelname	city	country	propertytype	starrating
0		97 2	Room size: 15	roomamenities Air conditioning: ;Alarm clock: ;Carpeting: ;C	maxoccupancy	mealinclusiontype Free Breakfast	hotelname The Old Cider House	city Nether Stowey	country United Kingdom	propertytype Hotels	
0 9	roomtype	82.3	Room size: 15 m²/161 ft², Shower, 1 king bed Room size: 24	Air conditioning: ;Alarm clock:		57.2	The Old Cider	Nether	United		higi
	Double Room Superior	82.3	Room size: 15 m²/161 ft², Shower, 1 king bed Room size: 24 m²/258 ft², Bathtub, 1 king bed Room size: 17	Air conditioning: ;Alarm clock: ;Carpeting: ;C Air conditioning: ;Bathrobes:	1	Free Breakfast	The Old Cider House	Nether Stowey	United Kingdom	Hotels	higl higl
9	Double Room Superior Room	82.3 108.1 252.5	Room size: 15 m²/161 ft², Shower, 1 king bed Room size: 24 m²/258 ft², Bathtub, 1 king bed Room size: 17 m²/183 ft², Garden view, Balcony Room size: 17	Air conditioning: ;Alarm clock: ;Carpeting: ;C Air conditioning: ;Bathrobes: ;Closet: ;Desk: Air conditioning: ;Alarm clock:	1	Free Breakfast Free Breakfast	The Old Cider House Augarten Art Hotel Hallmark Hotel Derby Mickleover	Nether Stowey Graz	United Kingdom Austria	Hotels Hotels	starrating high high high

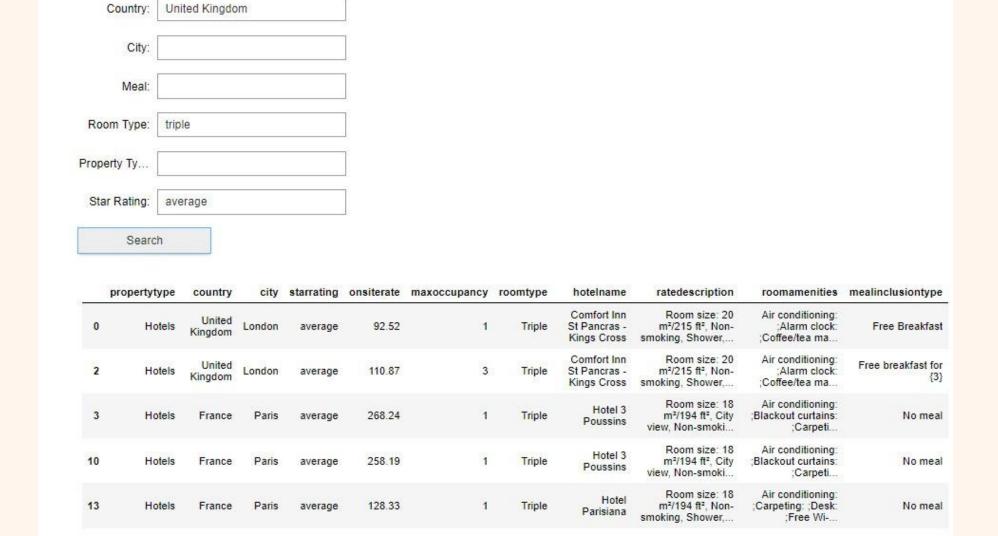


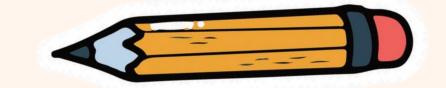


Precision@5: 2/5 = 0.4

Precision@5: 2/5 = 0.4

E	Country:	United Kingdom	i.											
	City:													
	Meal:													
Ro	oom Type:	triple												
Prop	perty Ty													
St	ar Rating:	average												
	Search													
		lusiontype r	oomtype	country	city	propertytype	starrating	hotelname	maxoccupancy	onsiterate	curr	ratedescription	roomamenities	03
1			oomtype Triple	country France		propertytype Hotels	starrating average	hotelname Hotel 3 Poussins		onsiterate 268.24			roomamenities Air conditioning: ;Blackout curtains: ;Carpeti	
1 2		lusiontype r			Paris				1	268.24	EUR			0.5
	mealincl	lusiontype r No meal	Triple Triple	France	Paris Paris	Hotels	average average	Hotel 3 Poussins	1	268.24 128.33	EUR EUR	Room size: 18 m²/194 ft², City view, Non-smoki	Air conditioning: ;Blackout curtains: ;Carpeti	0.
	mealincl	lusiontype r No meal No meal	Triple Triple	France France	Paris Paris London	Hotels Hotels	average average	Hotel 3 Poussins Hotel Parisiana	1 1 3	268.24 128.33	EUR EUR GBP	Room size: 18 m²/194 ft², City view, Non-smoki Room size: 18 m²/194 ft², Non-smoking, Shower, Room size: 20 m²/215 ft², Non-smoking, Shower,	Air conditioning: ;Blackout curtains: ;Carpeti Air conditioning: ;Carpeting: ;Desk: ;Free Wi	

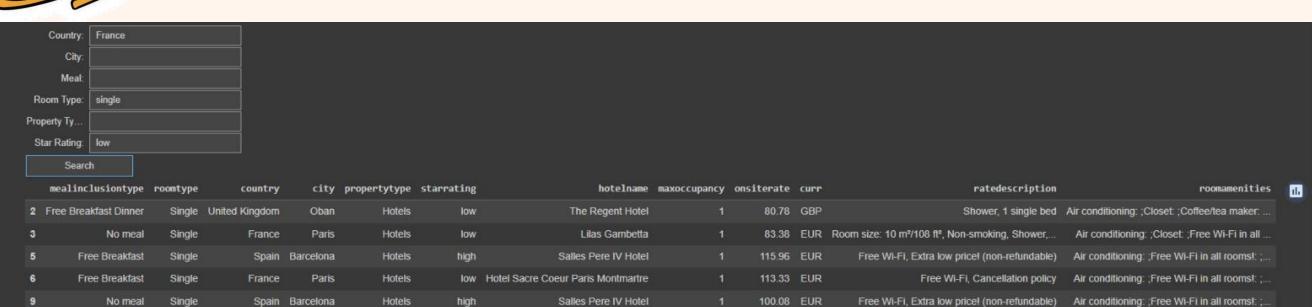






Country: France

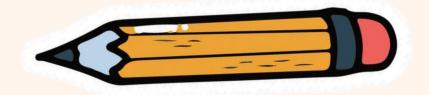
Prediction Result



Precision@5: 2/5 = 0.4

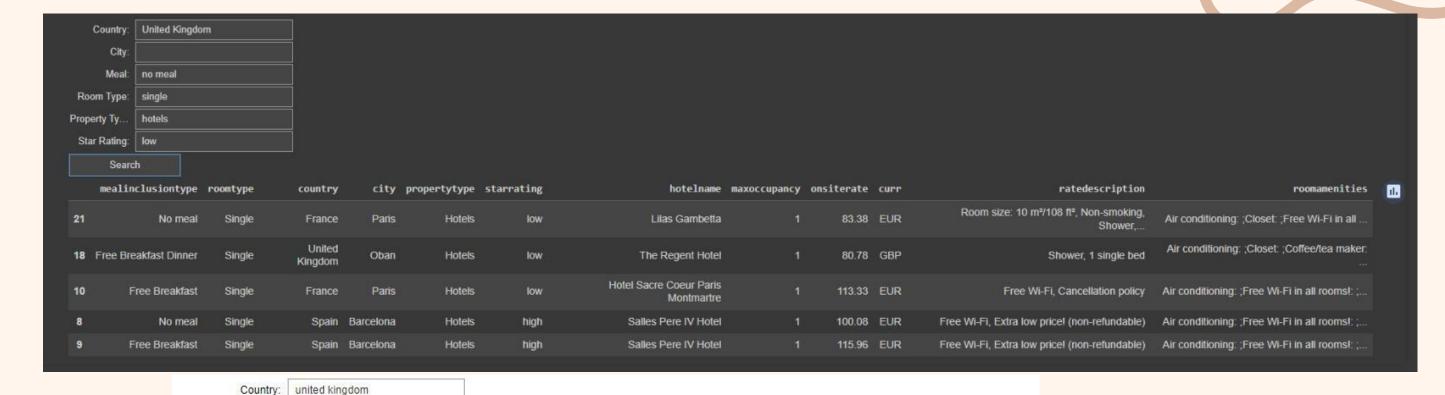
	City:										
	Meal:										
Room	n Type: si	ngle									
Propert	ty Ty										
Star I	Rating: lo	w									
	Search										
р	propertytype	country	city	starrating	onsiterate	maxoccupancy	roomtype	hotelname	ratedescription	roomamenities	mealinclusiontype
0	Hotels	Spain	Barcelona	high	115.96	1	Single	Salles Pere IV Hotel	Free Wi-Fi, Extra low price! (non- refundable)	Air conditioning: ;Free Wi-Fi in all rooms!: ;	Free Breakfast
2	Hotels	France	Chamonix- Mont-Blanc	average	190.88	1	Triple	Chalet Hotel Prieure	Room size: 30 m²/323 ft², Mountain view, Balco	Air conditioning: ;Alarm clock: ;Blackout curt	Free Breakfast Dinner
4	Hotels	France	Paris	low	83.38	1	Single	Lilas Gambetta	Room size: 10 m²/108 ft², Non- smoking, Shower,	Air conditioning: ;Closet: ;Free Wi- Fi in all	No mea
5	Hotels	Spain	Barcelona	high	100.08	1	Single	Salles Pere IV Hotel	Free Wi-Fi, Extra low price! (non- refundable)	Air conditioning: ;Free Wi-Fi in all rooms!: ;	No meal
10	Hotels	France	Paris	low	113.33	1	Single	Hotel Sacre Coeur Paris Montmartre	Free Wi-Fi, Cancellation policy	Air conditioning: ;Free Wi-Fi in all rooms!; ;	Free Breakfast

Precision@5: 2/5 = 0.4



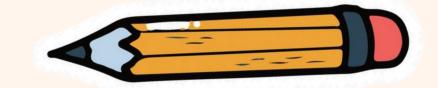


Precision@5: 0/5 = 0



Precision@5: 0/5 = 0



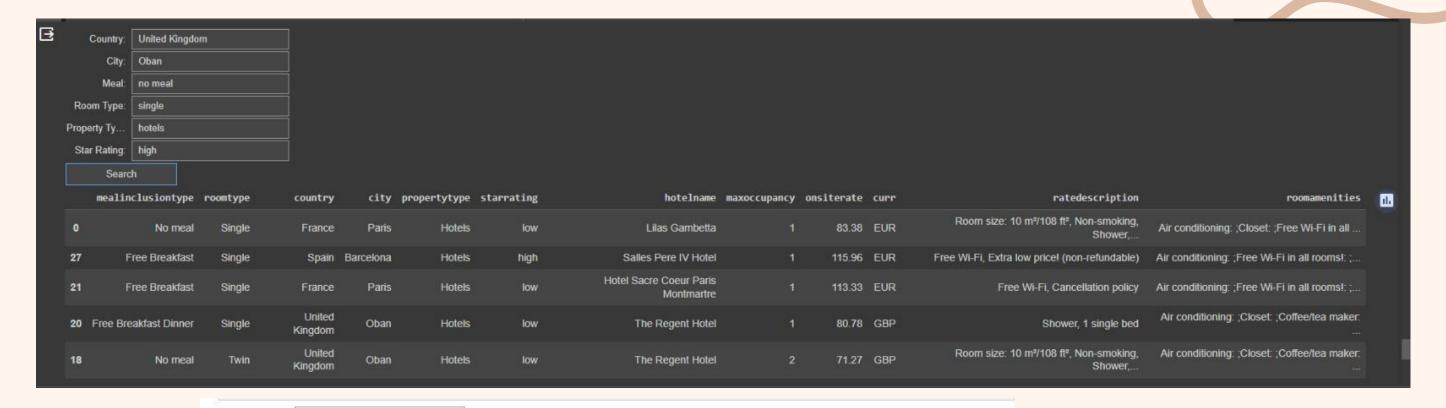




Country: united kingdom

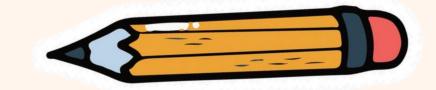
City: oban

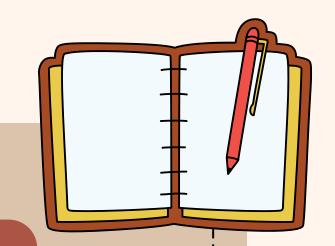
Precision@5: 0/5 = 0



Precision@5: 0/5 = 0







Conclusion

Thankyou