Swiggy_EDA

March 23, 2024

[1]:

```
import numpy as np
import pandas as pd
```

In this notebook we will take the *swiggy_scrap_uncleaned.csv* and clean the data.

After that we will try to answer following questions. * Which are the top 10 most ordered foods? * Which item in the top 10 list is delivered fastest? * Which are the top 10 pairs of food that is ordered together? * Which hotel delivered pizza fastest?

[2]:

```
df=pd.read_csv("swiggy_scrap_uncleaned.csv")
df.head()
```

[2]:

```
                         hotel_name rating_and_delivery_time  \
0                        McDonald's            4.5 • 27 mins
1                               KFC            4.2 • 30 mins
2                    Domino's Pizza            4.3 • 25 mins
3  Charcoal Eats - Biryani & Beyond            4.3 • 24 mins
4                        Sandwizzaa            4.6 • 22 mins

                                       food_type        location  \
0             Burgers, Beverages, Cafe, Desserts  Kandivali East
1  Burgers, Biryani, American, Snacks, Fast Food  Kandivali East
2              Pizzas, Italian, Pastas, Desserts  Thakur Village
3      Biryani, Kebabs, Hyderabadi, North Indian  Malad Kan East
4             Snacks, Fast Food, Beverages, Jain  Kandivali East

                  offer
0     30% OFF UPTO  75
1     40% OFF UPTO  80
2  150 OFF ABOVE  299
3    50% OFF UPTO  100
4    60% OFF UPTO  120
```

Data cleaning steps: * Add a column named 'order_id'. * Split column 'rating_and_delivery_time' into two columns 'rating' and 'delivery_time_min'. * Convert dtypes of the columns 'rating' and 'delivery_time_min' into numeric and fill the missing values.

[3]:

```
#Adding a new column at the beginning called order_id
df.insert(0, 'order_id', range(1, len(df) + 1))
```

```
[4]: # Splitting the column and creating new columns
     df[['rating', 'delivery_time']] = df['rating_and_delivery_time'].str.split(' •␣
      ↪', expand=True)
```

There were certain rows where rating and hence the separator was missing. This lead to delivery time being put in rating column. Lets see an example and correct this.

```
[5]: # Example before correction
     df[df['hotel_name'] == 'Tiffin Box'].head()
```

```
[5]:      order_id  hotel_name rating_and_delivery_time  \
     114       115  Tiffin Box                  27 mins

                                food_type        location              offer  \
     114  Biryani, Beverages, North Eastern  Malad Kan East   30% OFF UPTO  75

           rating delivery_time
     114  27 mins          None
```

```
[6]: # Move entries with 'mins' from 'rating' to 'delivery_time'
     df.loc[df['rating'].str.contains('mins'), ['rating', 'delivery_time']] = df.
      ↪loc[df['rating'].str.contains('mins'), ['delivery_time', 'rating']].values

     # Example after correction
     df[df['hotel_name'] == 'Tiffin Box'].head()
```

```
[6]:      order_id  hotel_name rating_and_delivery_time  \
     114       115  Tiffin Box                  27 mins

                                food_type        location              offer  \
     114  Biryani, Beverages, North Eastern  Malad Kan East   30% OFF UPTO  75

         rating delivery_time
     114   None       27 mins
```

There are certain rows where the time is written in range like 11-21 mins. We assume the delivery time to be the maximum in the range and clean the data.

```
[7]: # Example before correction
     df[df['hotel_name'] =='NH1 Bowls - Highway To North']
```

```
[7]:     order_id                    hotel_name rating_and_delivery_time  \
     26        27  NH1 Bowls - Highway To North         4.7 • 11-21 mins

                                food_type        location              offer  \
     26  North Indian, Punjabi, Home Food  Kandivali East   50% OFF UPTO  100

        rating delivery_time
```

```
26    4.7    11-21 mins
```

[8]:

```
# Extract 'mins' part using regular expression
df['delivery_time'] = df['delivery_time'].str.extract(r'(\d+\s*mins)')

# Example afer correction
df[df['hotel_name'] =='NH1 Bowls - Highway To North']
```

[8]:

```
    order_id                    hotel_name rating_and_delivery_time  \
26        27  NH1 Bowls - Highway To North          4.7 • 11-21 mins

                            food_type        location             offer  \
26  North Indian, Punjabi, Home Food  Kandivali East   50% OFF UPTO  100

   rating delivery_time
26    4.7       21 mins
```

[9]:

```
# Remove mins from delivery_time column
df['delivery_time'] = df['delivery_time'].str.extract(r'(\d+)')

# Rename the column
df.rename(columns={'delivery_time': 'delivery_time_min'}, inplace=True)

# Delete column 'rating_and_delivery_time'
df.drop('rating_and_delivery_time', axis = 1, inplace = True)
```

[10]:

```
columns_to_move = ['rating', 'delivery_time_min']

# Reindex the DataFrame to move the columns
new_columns = ['order_id'] + columns_to_move + [col for col in df.columns if␣
  ↪col not in columns_to_move + ['order_id']]
df = df.reindex(columns=new_columns)
```

[11]:

```
# Check the datatype of each column
df.dtypes
```

[11]:

```
order_id              int64
rating               object
delivery_time_min    object
hotel_name           object
food_type            object
location             object
offer                object
dtype: object
```

[12]:

```
# Convert dtypes of 'rating' and 'delivery_time_min' into numeric and fill NaN
df['rating'] = pd.to_numeric(df['rating'], errors='coerce')
```

```python
# Replace NaN values with the mean rating
df['rating'] = df['rating'].fillna(df['rating'].mean())

df['delivery_time_min'] = pd.to_numeric(df['delivery_time_min'])

df.dtypes
```

[12]:
```
order_id               int64
rating               float64
delivery_time_min      int64
hotel_name            object
food_type             object
location              object
offer                 object
dtype: object
```

[13]:
```python
# Make 'food_type' into list
df['food_type'] = df['food_type'].str.split(', ')

# This is cleaned dataframe
df.head()
```

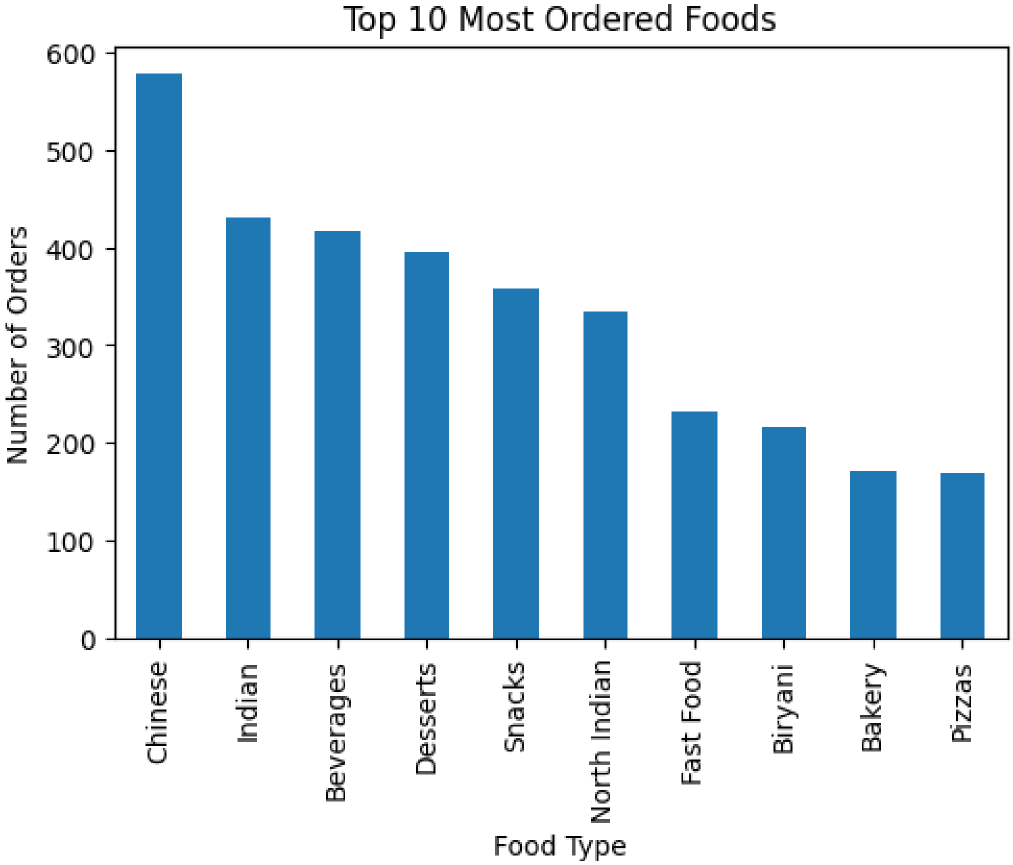
[13]:
```
   order_id  rating  delivery_time_min                        hotel_name  \
0         1     4.5                 27                        McDonald's
1         2     4.2                 30                               KFC
2         3     4.3                 25                    Domino's Pizza
3         4     4.3                 24  Charcoal Eats - Biryani & Beyond
4         5     4.6                 22                        Sandwizzaa

                                         food_type        location  \
0             [Burgers, Beverages, Cafe, Desserts]  Kandivali East
1  [Burgers, Biryani, American, Snacks, Fast Food]  Kandivali East
2              [Pizzas, Italian, Pastas, Desserts]  Thakur Village
3      [Biryani, Kebabs, Hyderabadi, North Indian]  Malad Kan East
4             [Snacks, Fast Food, Beverages, Jain]  Kandivali East

                  offer
0     30% OFF UPTO  75
1     40% OFF UPTO  80
2   150 OFF ABOVE  299
3    50% OFF UPTO  100
4    60% OFF UPTO  120
```

0.0.1 Answering the questions

1. Which are the top 10 most ordered foods?

[14]:

```
import matplotlib.pyplot as plt

df_food = df.explode('food_type').reset_index(drop=True)

top_10_foods = df_food['food_type'].value_counts().head(10)

fig = plt.figure(figsize=[6,4])
top_10_foods.plot(kind = 'bar')
plt.xlabel('Food Type')
plt.ylabel('Number of Orders')
plt.title('Top 10 Most Ordered Foods')
plt.xticks(rotation = 90)

plt.show()
```



2. Which item in the top 10 list is delivered fastest?

[15]:

```
top_10_list = list(top_10_foods.index)
```

```
top_10_df = df_food[df_food['food_type'].isin(top_10_list)]

top_10_grouped = top_10_df.groupby('food_type')['delivery_time_min'].mean().
 ↪reset_index()
top_10_grouped.sort_values(by = 'delivery_time_min', inplace = True)

top_10_grouped
```

[15]:

```
      food_type  delivery_time_min
0        Bakery          37.300000
4      Desserts          38.070707
1     Beverages          40.678657
9        Snacks          40.778711
5     Fast Food          42.607759
8        Pizzas          43.071429
2       Biryani          44.004651
6        Indian          44.041860
7  North Indian          44.074627
3       Chinese          44.610727
```

Hence, Bakery items are delivered fastest in the top 10 food list.

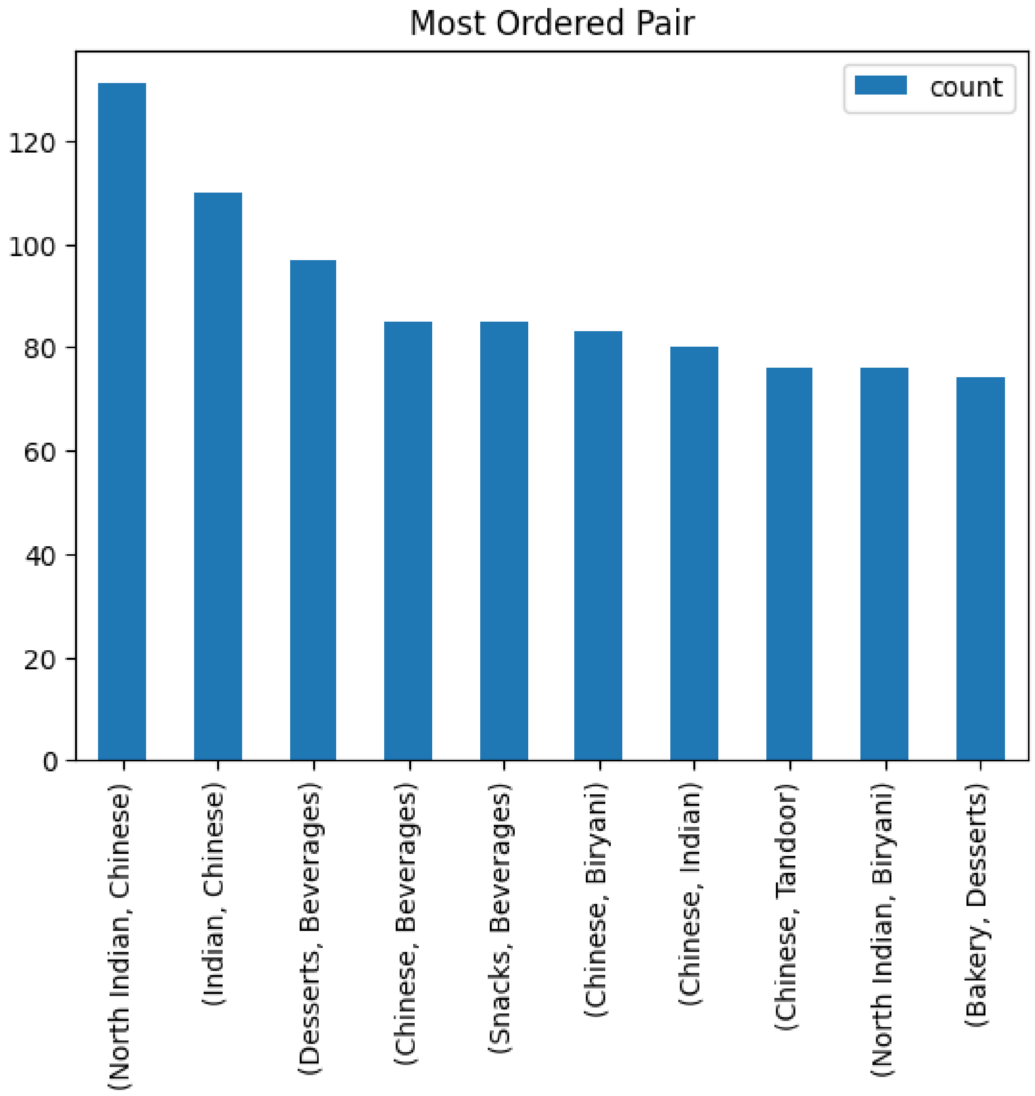
3. Which are the top 10 pairs of food that is ordered together?

[16]:

```
from itertools import combinations
from collections import Counter

# Define a function to count pairs of food types
def count_food_pairs(food_list):
    if len(food_list) < 2:
        return None
    pairs = list(combinations(food_list, 2))
    return Counter(pairs)

# Apply the function to each group
pair_counts = df['food_type'].apply(count_food_pairs).dropna()

# Combine and sum the counters for each pair
total_counts = Counter()
for counter in pair_counts:
    total_counts += counter

# Convert Counter object to dictionary
counts_dict = dict(total_counts)

# Convert dictionary to DataFrame
pair_counts_df = pd.DataFrame.from_dict(counts_dict, orient='index',␣
 ↪columns=['count'])
```

```
pair_counts_df.sort_values(by='count', ascending=False, inplace=True)

plt.figure(figsize=[8,6])
pair_counts_df.head(10).plot(kind = 'bar')
plt.title('Most Ordered Pair')
plt.xticks(rotation = 90)

plt.show()
```

```
<Figure size 800x600 with 0 Axes>
```



4. Which hotel delivered pizza fastest?

[17]:

```
pizza_df = df_food[df_food['food_type'] == 'Pizzas']
pizza_df = pizza_df.sort_values(by = 'delivery_time_min')
pizza_df.head()
```

[17]:

```
      order_id    rating  delivery_time_min          hotel_name food_type  \
156         50  4.100000                 18  The Netrik's Joint    Pizzas
116         38  4.300000                 21          Breadkraft    Pizzas
1698       461  3.900000                 23          Food Costa    Pizzas
4197      1351  4.400000                 24          MOGO Pizza    Pizzas
4203      1352  4.133215                 24     Oven Bake Pizza    Pizzas

                              location               offer
156                     Malad Kan West    30% OFF UPTO  75
116                             Mumbai    30% OFF UPTO  75
1698  Kandivali (East), Thakur Village    20% OFF UPTO  50
4197                    Kandivali East   50% OFF UPTO  100
4203                    Malad Kan East   50% OFF UPTO  100
```

[ ]:

```

```