Restaurant Recommendation System based on user preference.

```
In [4]: # Import Libraries
           import numpy as np
           import pandas as pd
           import seaborn as sns
           import matplotlib.pyplot as plt
           from sklearn.metrics import jaccard_score
           from scipy.spatial.distance import pdist, squareform
           pd.reset_option('display.max_rows')
           import warnings
 In [5]:
           warnings.filterwarnings("ignore")
 In [9]: # Creating the Dataframe
           file_path = r'D:\Software\New Project\Internship\Cognifyz\Predict Restaurant Ratings\Dataset .csv'
           df = pd.read csv(file path)
           df.head()
 Out[9]:
              Restaurant
                          Restaurant Country
                                                                                           Locality
                                                         City
                                                               Address
                                                                              Locality
                                                                                                      Longitude
                                                                                                                   Latitude
                                                                                                                             Cuisines ... Curr
                      ID
                               Name
                                         Code
                                                                                           Verbose
                                                                   Third
                                                                                        Century City
                                                                  Floor,
                                                                          Century City
                                                                                               Mall,
                                                                                                                               French,
                              Le Petit
                                                                Century
                                                                                 Mall,
                                                                                                                                           Bots
           0
                 6317637
                                                  Makati City
                                           162
                                                                                          Poblacion.
                                                                                                     121.027535 14.565443
                                                                                                                             Japanese.
                                                                            Poblacion,
                               Souffle
                                                               City Mall,
                                                                                                                                             Pι
                                                                                         Makati City,
                                                                                                                              Desserts
                                                               Kalayaan
                                                                           Makati City
                                                                                              Mak
                                                                Avenu...
                                                                   Little
                                                                 Tokyo,
                                                                                        Little Tokyo,
                                                                          Little Tokyo,
                                                                   2277
                                                                                            Legaspi
                                                                                                                                           Bots
                              Izakava
                                                                              Legaspi
           1
                 6304287
                                           162
                                                  Makati City
                                                                  Chino
                                                                                             Village,
                                                                                                     121.014101 14.553708 Japanese
                                                                               Village,
                                                                                                                                             Pι
                              Kikufuji
                                                                                         Makati City,
                                                                  Roces
                                                                           Makati City
                                                                Avenue.
                                                                                               Ma...
                                                               Legaspi...
                                                                   Edsa
                                                                Shangri-
                                                                                Edsa
                                                                                              Edsa
                                                                                                                              Seafood,
                                                                           Shangri-La.
                                                                                         Shangri-La,
                               Heat -
                                                                   La. 1
                                                Mandaluyong
                                                                                                                                Asian,
                                                                                                                                           Bots
                 6300002
                                           162
                                                                                                     121.056831 14.581404
           2
                                Edsa
                                                                 Garden
                                                                              Ortigas,
                                                                                            Ortigas,
                                                         City
                                                                                                                               Filipino,
                                                                                                                                             Рι
                           Shangri-La
                                                                   Way,
                                                                                       Mandaluyong
                                                                         Mandaluyong
                                                                                                                                Indian
                                                                Ortigas,
                                                                                 City
                                                                                          City, Ma...
                                                               Mandal...
                                                                   Third
                                                                                                SM
                                                                                  SM
                                                                  Floor.
                                                                                          Megamall,
                                                                            Megamall,
                                                                  Mega
                                                Mandaluyong
                                                                                            Ortigas,
                                                                                                                             Japanese,
                                                                                                                                            Bots
                                                                                                     121.056475 14.585318
           3
                 6318506
                               Ooma
                                           162
                                                                Fashion
                                                                              Ortigas,
                                                         City
                                                                                       Mandaluyong
                                                                                                                                 Sushi
                                                                                                                                             Pι
                                                                Hall, SM
                                                                         Mandaluyong
                                                                                               City,
                                                              Megamall,
                                                                                 City
                                                                                           Mandal...
                                                                    O...
                                                                   Third
                                                                                                SM
                                                                  Floor,
                                                                                  SM
                                                                                          Megamall,
                                                                            Megamall,
                                                                  Mega
                                                Mandaluyong
                                                                                            Ortigas,
                               Sambo
                                                                                                                             Japanese,
                                                                                                                                           Bots
                 6314302
                                           162
                                                                 Atrium,
                                                                              Ortigas,
                                                                                                     121.057508 14.584450
                                                                                       Mandaluyong
                                                                                                                                             Рι
                                Koiin
                                                         City
                                                                                                                               Korean
                                                                    SM
                                                                         Mandaluyong
                                                                                               City,
                                                              Megamall,
                                                                                  City
                                                                                           Mandal
                                                               Ortigas...
          5 rows × 21 columns
In [10]: df.columns
Out[10]: Index(['Restaurant ID', 'Restaurant Name', 'Country Code', 'City', 'Address',
                    'Locality', 'Locality Verbose', 'Longitude', 'Latitude',
                                                                                       'Cuisines',
                    'Average Cost for two', 'Currency', 'Has Table booking', 'Has Online delivery', 'Is delivering now', 'Switch to order menu',
                    'Price range', 'Aggregate rating', 'Rating color', 'Rating text',
                    'Votes'],
                  dtype='object')
In [11]: dfRS = df[['Restaurant ID','Restaurant Name','Cuisines','Aggregate rating','Votes']]
```

Out[11]:		Restaurant ID	Restaurant Name	Cuisines	Aggregate rating	Votes
0 6		6317637	Le Petit Souffle	French, Japanese, Desserts	4.8	314
	1	6304287	Izakaya Kikufuji	Japanese	4.5	591
	2	6300002	Heat - Edsa Shangri-La	Seafood, Asian, Filipino, Indian	4.4	270
	3	6318506	Ooma	Japanese, Sushi	4.9	365
	4	6314302	Sambo Kojin	Japanese, Korean	4.8	229
	9546	5915730	Naml\ Gurme	Turkish	4.1	788
	9547	5908749	Ceviz A��ac¹	World Cuisine, Patisserie, Cafe	4.2	1034
	9548	5915807	Huqqa	Italian, World Cuisine	3.7	661
	9549	5916112	A���k Kahve	Restaurant Cafe	4.0	901
	9550	5927402	Walter's Coffee Roastery	Cafe	4.0	591

9551 rows × 5 columns

Data Cleaning

```
In [12]: # Gathering information of every columns
        # Columns Description
        def dataDesc():
           listItem = []
           for col in dfRS.columns :
              listItem.append(
                  [col,
                  dfRS[col].dtype,
                  dfRS[col].isna().sum(),
                  round(dfRS[col].isna().sum()/len(dfRS)*100,2),
                  dfRS[col].nunique(),
                  list(dfRS[col].drop_duplicates().sample(2).values)]
           descData = pd.DataFrame(data = listItem,
                               return descData
        dataDesc()
```

Out[12]:		Column	Data Type	Missing Value	Pct Missing Value	Num Unique	Unique Sample
	0	Restaurant ID	int64	0	0.00	9551	[1820, 18381643]
	1	Restaurant Name	object	0	0.00	7446	[Narang's Bake 'n' Cake, Indo Chinese]
	2	Cuisines	object	9	0.09	1825	[Lebanese, Mediterranean, Arabian, Cafe, North
	3	Aggregate rating	float64	0	0.00	33	[4.2, 4.5]
	4	Votes	int64	0	0.00	1012	[348, 797]

```
In [13]: dfRS = dfRS.dropna()
In [14]: dfRS
```

```
Out[14]:
                                                                        Cuisines Aggregate rating
              0
                      6317637
                                       Le Petit Souffle
                                                        French, Japanese, Desserts
                                                                                                     314
                                                                                              48
              1
                      6304287
                                                                        Japanese
                                                                                              4.5
                                                                                                     591
                                       Izakaya Kikufuji
              2
                      6300002
                                Heat - Edsa Shangri-La
                                                      Seafood, Asian, Filipino, Indian
                                                                                                     270
                                                                                              4.4
              3
                      6318506
                                               Ooma
                                                                  Japanese, Sushi
                                                                                              4.9
                                                                                                     365
              4
                      6314302
                                         Sambo Kojin
                                                                 Japanese, Korean
                                                                                              4.8
                                                                                                     229
             ...
           9546
                      5915730
                                        Naml<sup>1</sup> Gurme
                                                                          Turkish
                                                                                                     788
                                                                                               4.1
                                       Ceviz A��ac\ World Cuisine, Patisserie, Cafe
          9547
                      5908749
                                                                                              4.2
                                                                                                    1034
          9548
                      5915807
                                              Huqqa
                                                              Italian, World Cuisine
                                                                                              37
                                                                                                     661
          9549
                      5916112
                                      A���k Kahve
                                                                  Restaurant Cafe
                                                                                              4.0
                                                                                                     901
          9550
                      5927402 Walter's Coffee Roastery
                                                                            Cafe
                                                                                               4.0
                                                                                                     591
          9542 rows × 5 columns
In [15]: # Renaming the Columns
          dfRS = dfRS.rename(columns={'Restaurant ID': 'restaurant id'})
          dfRS = dfRS.rename(columns={'Restaurant Name': 'restaurant_name'})
          dfRS = dfRS.rename(columns={'Cuisines': 'cuisines'})
          dfRS = dfRS.rename(columns={'Aggregate rating': 'aggregate_rating'})
          dfRS = dfRS.rename(columns={'Votes': 'votes'})
In [16]: dfRS
Out[16]:
                restaurant_id
                                                                        cuisines aggregate_rating
                                                                                                   votes
                                    restaurant name
              0
                     6317637
                                       Le Petit Souffle
                                                        French, Japanese, Desserts
                                                                                                     314
                                                                                              4.8
              1
                      6304287
                                       Izakaya Kikufuji
                                                                        Japanese
                                                                                              4.5
                                                                                                     591
              2
                     6300002
                                Heat - Edsa Shangri-La
                                                     Seafood, Asian, Filipino, Indian
                                                                                              4.4
                                                                                                     270
              3
                     6318506
                                                                                                     365
                                              Ooma
                                                                  Japanese, Sushi
                                                                                              4.9
              4
                     6314302
                                         Sambo Koiin
                                                                Japanese, Korean
                                                                                              4.8
                                                                                                     229
                                                                                               ...
          9546
                     5915730
                                        Naml\ Gurme
                                                                         Turkish
                                                                                              4.1
                                                                                                     788
                                      Ceviz A��ac\ World Cuisine, Patisserie, Cafe
          9547
                     5908749
                                                                                              4.2
                                                                                                    1034
          9548
                     5915807
                                                              Italian, World Cuisine
                                                                                                     661
                                              Hugga
                                                                                              3.7
           9549
                      5916112
                                      A���k Kahve
                                                                                                     901
                                                                  Restaurant Cafe
                                                                                              4.0
          9550
                     5927402 Walter's Coffee Roastery
                                                                            Cafe
                                                                                              4.0
                                                                                                     591
          9542 rows × 5 columns
In [18]: # Check for Duplicates
          dfRS.duplicated().sum()
Out[18]: 0
In [19]: dfRS['restaurant name'].duplicated().sum()
Out[19]:
          2105
In [20]: dfRS['restaurant name'].value counts()
Out[20]:
          restaurant_name
                                           83
           Cafe Coffee Day
                                           79
           Domino's Pizza
                                           63
           Subway
           Green Chick Chop
                                           51
           McDonald's
                                           48
           The Town House Cafe
                                            1
           The G.T. Road
           The Darzi Bar & Kitchen
                                            1
           Smoke On Water
           Walter's Coffee Roastery
                                            1
           Name: count, Length: 7437, dtype: int64
In [21]: dfRS = dfRS.sort_values(by=['restaurant_name', 'aggregate_rating'],ascending=False)
```

Votes

Restaurant ID

Restaurant Name

```
cuisines aggregate_rating
                  restaurant_id restaurant_name
           3031
                           143
                                   Domino's Pizza Pizza, Fast Food
                                                                                3.7
                                                                                       336
                          5065
           1844
                                   Domino's Pizza Pizza. Fast Food
                                                                                3.6
                                                                                       146
                         15078
                                                                                3.6
                                                                                        86
           2448
                                   Domino's Pizza Pizza Fast Food
           7618
                     18263236
                                   Domino's Pizza Pizza, Fast Food
                                                                                3.6
                                                                                        24
           8437
                           384
                                   Domino's Pizza Pizza, Fast Food
                                                                                3.6
                                                                                       547
          # Dropping duplicaes only keeping first Value.
           dfRS = dfRS.drop_duplicates('restaurant_name',keep='first')
           dfRS
                  restaurant_id
                                    restaurant_name
                                                                                   cuisines aggregate_rating
                                                                                                               votes
           9523
                      6000871

�ukura��a Sofras¹

                                                                              Kebab, Izgara
                                                                                                          4.4
                                                                                                                296
           3120
                     18222559
                                  {Niche} - Cafe & Bar
                                                     North Indian, Chinese, Italian, Continental
                                                                                                          4.1
                                                                                                                 492
           9334
                      7100938
                                         wagamama
                                                                            Japanese, Asian
                                                                                                          3.7
                                                                                                                 131
                      6401789
                                                                                                          4 1
           9454
                                              tashas
                                                                        Cafe. Mediterranean
                                                                                                                 374
           4659
                     18361747
                                  t Lounge by Dilmah
                                                                         Cafe, Tea, Desserts
                                                                                                          3.6
                                                                                                                  34
           8692
                     18317511
                                     #Urban Caf��
                                                                 North Indian, Chinese, Italian
                                                                                                          3.3
                                                                                                                  49
           6998
                     18336489
                                       #OFF Campus
                                                           Cafe Continental Italian Fast Food
                                                                                                          37
                                                                                                                216
           2613
                     18311951
                                        #InstaFreeze
                                                                                 Ice Cream
                                                                                                          0.0
                                                                                                                   2
                                         #Dilliwaala6
           9148
                     18378803
                                                                                North Indian
                                                                                                          3.7
                                                                                                                 124
           2459
                      3100446
                                                #45
                                                                                      Cafe
                                                                                                          3.6
                                                                                                                209
          7437 rows × 5 columns
In [24]: dfRS['restaurant_name'].value_counts()
Out[24]:
           restaurant name
           QukuraQQa Sofras∖
           French Toast
                                             1
           Fourteen Eleven Tea Cafe
           Fozzie's Pizzaiolo
                                             1
           Frasers
                                             1
           Pizza Street
                                             1
           Pizza Treat
                                             1
           Pizza Yum
                                             1
           Pizza 👀 Bessa
                                             1
           #45
           Name: count, Length: 7437, dtype: int64
In [26]:
          dfRS = dfRS[dfRS['aggregate rating']>=4.0]
           dfRS
Out[26]:
                  restaurant_id
                                      restaurant_name
                                                                                    cuisines aggregate_rating
                                                                                                                votes

�ukura��a Sofras¹

           9523
                      6000871
                                                                                Kebab, Izgara
                                                                                                            4.4
                                                                                                                   296
           3120
                     18222559
                                    {Niche} - Cafe & Bar North Indian, Chinese, Italian, Continental
                                                                                                            4 1
                                                                                                                   492
           9454
                      6401789
                                                tashas
                                                                          Cafe, Mediterranean
                                                                                                            4.1
                                                                                                                   374
           9385
                      6113857
                                         sketch Gallery
                                                                         British, Contemporary
                                                                                                            4.5
                                                                                                                   148
                     18418247
           1837
                                            feel ALIVE
                                                           North Indian, American, Asian, Biryani
                                                                                                            4.7
                                                                                                                    69
           1468
                     18408054
                                     19 Flavours Biryani
                                                                          Mughlai, Hyderabadi
                                                                                                            4.1
                                                                                                                    84
           2484
                     18233317
                                       145 Kala Ghoda
                                                                Fast Food, Beverages, Desserts
                                                                                                            4.2
                                                                                                                  1606
                                                             Cafe, American, Italian, Continental
           2292
                      2100784
                                11th Avenue Cafe Bistro
                                                                                                            4.1
                                                                                                                  377
                      2600031
                                                                         North Indian, Chinese
            751
                                      10 Downing Street
                                                                                                            4.0
                                                                                                                  257
                     17057397
            351
                                               'Ohana
                                                                                    Hawaiian
                                                                                                            4.5
                                                                                                                 1151
```

In [22]: dfRS[dfRS['restaurant_name']=="Domino's Pizza"].head()

1236 rows × 5 columns

```
In [27]: # Split Cuisines into list
           dfRS['cuisines'] = dfRS['cuisines'].str.split(', ')
           dfRS
Out[27]:
                 restaurant id
                                      restaurant name
                                                                                               aggregate_rating votes
                                                                                      cuisines
           9523
                      6000871

�ukura��a Sofras¹

                                                                                [Kebab, Izgara]
                                                                                                                    296
                                                                                                             4.4
           3120
                     18222559
                                    {Niche} - Cafe & Bar
                                                       [North Indian, Chinese, Italian, Continental]
                                                                                                                    492
                                                                                                             4.1
           9454
                      6401789
                                                tashas
                                                                          [Cafe, Mediterranean]
                                                                                                             4.1
                                                                                                                    374
                                                                                                             4.5
           9385
                      6113857
                                         sketch Gallery
                                                                         [British, Contemporary]
                                                                                                                    148
           1837
                     18418247
                                            feel ALIVE
                                                           [North Indian, American, Asian, Biryani]
                                                                                                             4.7
                                                                                                                     69
              ...
                                                                                                                     ...
                     18408054
           1468
                                     19 Flavours Biryani
                                                                          [Mughlai, Hyderabadi]
                                                                                                             4.1
                                                                                                                     84
           2484
                     18233317
                                       145 Kala Ghoda
                                                                [Fast Food, Beverages, Desserts]
                                                                                                                   1606
                                                                                                             42
           2292
                      2100784
                                11th Avenue Cafe Bistro
                                                             [Cafe, American, Italian, Continental]
                                                                                                             4.1
                                                                                                                    377
            751
                      2600031
                                     10 Downing Street
                                                                         [North Indian, Chinese]
                                                                                                             4.0
                                                                                                                    257
            351
                     17057397
                                               'Ohana
                                                                                    [Hawaiian]
                                                                                                             4.5
                                                                                                                  1151
          1236 rows × 5 columns
In [28]: # Exploding 'cuisines'
           dfRS = dfRS.explode('cuisines')
           dfRS
Out[28]:
                  restaurant_id
                                      restaurant_name
                                                           cuisines
                                                                    aggregate_rating
                                                                                       votes

�ukura��a Sofras¹

           9523
                      6000871
                                                                                         296
                                                             Kebab
                                                                                  4.4
           9523
                      6000871

�ukura��a Sofras¹

                                                                                  4.4
                                                                                         296
                                                             Izgara
           3120
                     18222559
                                    {Niche} - Cafe & Bar
                                                       North Indian
                                                                                  4.1
                                                                                         492
           3120
                     18222559
                                    {Niche} - Cafe & Bar
                                                           Chinese
                                                                                  4.1
                                                                                         492
           3120
                     18222559
                                    {Niche} - Cafe & Bar
                                                                                         492
                                                             Italian
                                                                                  4 1
                                                                                          ...
           2292
                      2100784
                                11th Avenue Cafe Bistro
                                                             Italian
                                                                                  4.1
                                                                                         377
           2292
                      2100784
                                11th Avenue Cafe Bistro
                                                         Continental
                                                                                  4.1
                                                                                         377
                      2600031
            751
                                     10 Downing Street
                                                       North Indian
                                                                                  40
                                                                                        257
            751
                      2600031
                                      10 Downing Street
                                                           Chinese
                                                                                  4.0
                                                                                         257
            351
                     17057397
                                               'Ohana
                                                           Hawaiian
                                                                                  4.5
                                                                                       1151
          2971 rows × 5 columns
In [29]: # Cuisines Check
           dfRS['cuisines'].value_counts()
Out[29]: cuisines
           North Indian
                              270
           Italian
                              237
           Chinese
                              200
           Continental
                              199
           Cafe
                              177
           Pub Food
                                 1
           Durban
                                 1
           Irish
                                 1
           Persian
                                 1
           Sunda
           Name: count, Length: 128, dtype: int64
In [30]:
           # Cross Tabulate Restaurant Name and Cuisines
           xTabRestoCuisines = pd.crosstab(dfRS['restaurant_name'],
                                                 dfRS['cuisines'])
```

In [31]: xTabRestoCuisines

```
Fusion
                                                                                                       Mex
        restaurant name
               'Ohana
                          0
                                 0
                                         0
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                           0 ...
                                                                                                     0
                                                                                                         0
            10 Downing
                          0
                                 0
                                         0
                                                       0
                                                               0
                                                                                    0
                                                                                           0 ...
                                                0
                                                                     0
                                                                           0
                                                                                                     0
                                                                                                         0
                Street
           11th Avenue
                          0
                                 0
                                         1
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                           0 ...
                                                                                                     0
                                                                                                         0
            Cafe Bistro
         145 Kala Ghoda
                          0
                                 0
                                         0
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                           0
                                                                                                     0
                                                                                                         0
            19 Flavours
                          0
                                 0
                                         0
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                           0 ...
                                                                                                     0
                                                                                                         0
               Biryani
             feel ALIVE
                          0
                                 0
                                         1
                                                0
                                                       0
                                                               0
                                                                     1
                                                                           0
                                                                                    0
                                                                                                     0
                                                                                                         0
                                                                                           0 ...
          sketch Gallery
                          0
                                 0
                                         0
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                                     0
                                                                                                         0
                          0
                                 0
                                         0
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                                     0
                                                                                                         0
               tashas
                                                                                           0 ...
         {Niche} - Cafe &
                          0
                                         0
                                                0
                                                                                    0
                                 0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                           0 ...
                                                                                                     0
                                                                                                         0
                  Bar
          �ukura��a
                          0
                                 0
                                         0
                                                0
                                                       0
                                                               0
                                                                     0
                                                                           0
                                                                                    0
                                                                                                     0
                                                                                                         0
                                                                                           0 ...
               Sofras \
        1236 rows × 128 columns
In [32]: # Checking on restaurant name value
        xTabRestoCuisines.loc['feel ALIVE'].values
Out[32]: array([0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
               In [33]: # Resto Names Sample
        dfRS['restaurant_name'].sample(20, random_state=101)
Out[33]:
        439
                              Mrs. Wilkes' Dining Room
        9545
                                            Baltazar
        6921
                                           Rose Cafe
        108
                                  Big City Bread Cafe
        2311
                                        Olive Bistro
        120
                                    Transmetropolitan
        4387
                                   Maxims Pastry Shop
        9222
                                              Meraki
        9359
                                     Mimi's Bakehouse
        2438
                                     Cappuccino Blast
        8049
                                        Oh So Stoned!
        9544
                                 Karak@_y G@_ll@_o@@lu
        579
                                           Via Delhi
        376
                           Tu-Do Vietnamese Restaurant
        4088
               Tian - Asian Cuisine Studio - ITC Maurya
        153
                                    Boise Fry Company
        172
                                   Ting's Red Lantern
        3107
                                        Odeon Social
        9513
                                          The Sizzle
        839
                                      Sree Annapoorna
        Name: restaurant name, dtype: object
In [34]: # Measure Similarity
        print(jaccard score(xTabRestoCuisines.loc["Olive Bistro"].values,
                          xTabRestoCuisines.loc["Rose Cafe"].values))
       0.3333333333333333
In [35]: # Create Similarity Value DF
        jaccardDist = pdist(xTabRestoCuisines.values, metric='jaccard')
        jaccardMatrix = squareform(jaccardDist)
        jaccardSim = 1 - jaccardMatrix
        dfJaccard = pd.DataFrame(
            jaccardSim,
            index=xTabRestoCuisines.index,
            columns=xTabRestoCuisines.index)
```

dfJaccard

cuisines Afghani African American Andhra Arabian Argentine Asian

Asian

Australian Awadhi ... Teriyaki

Tex-

:[35]:	restaurant_name	'Ohana	10 Downing Street	11th Avenue Cafe Bistro	145 Kala Ghoda	19 Flavours Biryani	1918 Bistro & Grill	2 Dog	22nd Parallel	3 Wise Monkeys	38 Barracks		Zoeys Pizzeria	Zolocr - Ho Cla Ar
	restaurant_name													
	'Ohana	1.0	0.0	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0	0.000000		0.0	
	10 Downing Street	0.0	1.0	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0	0.200000		0.0	
	11th Avenue Cafe Bistro	0.0	0.0	1.000000	0.0	0.0	0.0	0.166667	0.0	0.0	0.333333		0.0	
	145 Kala Ghoda	0.0	0.0	0.000000	1.0	0.0	0.0	0.000000	0.0	0.0	0.000000		0.0	
	19 Flavours Biryani	0.0	0.0	0.000000	0.0	1.0	0.0	0.000000	0.0	0.0	0.000000		0.0	
	feel ALIVE	0.0	0.2	0.142857	0.0	0.0	0.0	0.166667	0.0	0.0	0.600000		0.0	
	sketch Gallery	0.0	0.0	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0	0.000000		0.0	
	tashas	0.0	0.0	0.200000	0.0	0.0	0.0	0.000000	0.0	0.0	0.000000		0.0	
	{Niche} - Cafe & Bar	0.0	0.5	0.333333	0.0	0.0	0.0	0.000000	0.0	0.0	0.333333		0.0	
	� ukura ��a Sofras≀	0.0	0.0	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0	0.000000		0.0	
	1236 rows × 1236 columns													
	4													Þ
[36]:	# Resto Names Sample dfRS['restaurant_name'].sample(20)													
t[36]:	849 Kalsang Friends Corner													

```
Ιn
Out[36]: 849
                       19 Flavours Biryani
                             Cafûû Riverrun
         2293
         588
                                  Farzi Cafe
         9203
                              Falafel Lovers
         2434
                                   Royal Sky
         2142
                                  Cafe Sante
         515
                         Columbia Restaurant
         1837
                                  feel ALIVE
                                 Sambo Kojin
         3115
                         The Town House Cafe
         2451
                                  Hot Breads
         820
                          Basil With A Twist
         55
                              Talho Capixaba
         2425
                                Free Spirit
         9509
                             Butter Boutique
         158
                 Lucianos Italian Restaurant
         432
                              Duke's Waikiki
         9169
                            Agent Jack's Bar
         184
                              Zoeys Pizzeria
```

Final Recommendation System

Name: restaurant name, dtype: object

```
In [37]: # Input Initial Restaurant Name
    resto = 'Ooma'

sim = dfJaccard.loc[resto].sort_values(ascending=False)

sim = pd.DataFrame({'restaurant_name': sim.index, 'simScore': sim.values})
    sim = sim[(sim['restaurant_name']!= resto) & (sim['simScore']>=0.7)].head(5)

# Merge The Rating
    RestoRec = pd.merge(sim,dfRS[['restaurant_name','aggregate_rating']],how='inner',on='restaurant_name')
    FinalRestoRec = RestoRec.sort_values('aggregate_rating',ascending=False).drop_duplicates('restaurant_name',keeps

In [38]: FinalRestoRec
```

Out[38]:		restaurant_name	simScore	aggregate_rating
	0	Sushi Masa	1.0	4.9
	2	Nobu	1.0	4.4
	4	Ichiban	1.0	4.3
	8	Osaka	1.0	4.2
	6	Guppy	1.0	4.1

Conclusion:

The above Data will show up to top 5 recommended restaurants with the best rating, the rating is also curated only 4 and above, so the reccomendation system porvide good rating objectively.

THANK YOU!!!

GitHub Link: https://github.com/anujtiwari21?tab=repositories

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