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In [2]: import numpy as np
import pandas as pd
import difflib
import sklearn
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.metrics.pairwise import cosine_similarity
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In [3]: zo=pd.read_csv('A:/BangaloreZomatoData-2022.csv')
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In [4]: zo = zo.reset_index()
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In [5]: zo.head()
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out[5]:

	index	Name	URL	Cuisines	Area	Timing	Full_Address	PhoneNumber	IsHomeDelivery	isTakeaway	isIndoorSeating	isVegOnly	Dinner Ratings	Dinner Reviews
0	0	Sri Udupi Park	https://www.zomato.com/bangalore/sri-udupi-par...	South Indian, North Indian, Chinese, Street Fo...	Indiranagar, Bangalore	7am – 11pm (Today)	273, Monalisa, 6th Main, 100 Feet Road, Indira...	+919945977774	1	1	1	1	4.0	462
1	1	Meghana Foods	https://www.zomato.com/bangalore/meghana-foods...	Biryani, Andhra, North Indian, Seafood	Indiranagar, Bangalore	Opens at 6:30pm	544, First Floor, CMH Road, Near Indiranagar M...	+918041135050	1	1	1	0	4.3	1654
2	2	Donne Biryani House	https://www.zomato.com/bangalore/donne-biryan...	Biryani	Indiranagar, Bangalore	11am – 11pm (Today)	8/ 9, 17th F Cross, 2nd Stage, Indiranagar, Ba...	+918861564169	1	1	1	0	3.9	411
3	3	Domino's Pizza	https://www.zomato.com/bangalore/dominos-pizza...	Pizza, Fast Food, Desserts	Indiranagar, Bangalore	10:57am – 12midnight (Today)	308, 2nd Stage, 100 Feet Road, Indiranagar, Ba...	+919916465787	1	1	1	0	2.4	422
4	4	KFC	https://www.zomato.com/bangalore/kfc-indiranagar	Burger, Fast Food, Biryani, Desserts, Beverages	Indiranagar, Bangalore	11am – 11pm (Today)	38/1A, CMH Road, Indiranagar, Bangalore	+919513700040	1	1	1	0	2.8	673

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In [25]: #Select the list of columns
selected_features = ['Name', 'Cuisines', 'Area', 'Full_Address', 'PopularDishes', 'Dinner Ratings', 'AverageCost']

#If there is any Na fill wit " "
for feature in selected_features:
    zo[feature] = zo[feature].fillna('')

#Coimbinig the columns Together
combine_features=zo['Name']+zo['Cuisines']+zo['Area']+zo['Full_Address']+zo['PopularDishes']+str(zo['Dinner Ratings'])+str(zo['AverageCost'])

# vectorizer is used to convert text to numbers as specific tag
vectorizer = TfidfVectorizer()

# The transformed numerics store in this variable
feature_vectors = vectorizer.fit_transform(combine_features)

#Getting similarity score
similarity = cosine_similarity(feature_vectors)

#Getting the name as input from user
Restaurant_area = input('Enter the area name: ').lower()

#Which allows spacing
Restaurant_area = Restaurant_area.strip()

# Filter restaurants based on area
#condition
zo_area = zo[zo['Area'].str.lower() == Restaurant_area]

if len(zo_area) == 0:
    print(f"No restaurants found in {Restaurant_area}")
else:
    List_of_all_Restaurant_name = zo_area['Name'].tolist()

    Restaurant_name = input(f'Enter a restaurant name in {Restaurant_area}: ').lower()
    Restaurant_name = Restaurant_name.strip()

    # Finding the closest match for the given restaurant name
    find_close_match = difflib.get_close_matches(Restaurant_name, List_of_all_Restaurant_name)
    if len(find_close_match) == 0:
        print(f"No restaurants found with name '{Restaurant_name}' in {Restaurant_area}")
    else:
        close_match = find_close_match[0]
        index_of_the_Restaurant = zo_area[zo_area.Name == close_match]['index'].values[0]
        similarity_score = list(enumerate(similarity[index_of_the_Restaurant]))
        sort_similarity_Restaurant = sorted(similarity_score, key = lambda x:x[1], reverse=True)

        print(f'Restaurants in {Restaurant_area} similar to {close_match} based on rating and features: \n')
        i = 1
        for Restaurant in sort_similarity_Restaurant:
            index = Restaurant[0]
            Name_from_index = zo_area[zo_area.index==index]['Name'].values
            if i<10:
                print(i, '.', Name_from_index)
            i+=1
```

Enter the area name: Electronic City, Bangalore
Enter a restaurant name in electronic city, bangalore: Mangalorean Foods
Restaurants in electronic city, bangalore similar to Mangalorean Foods based on rating and features:

- 1 . ['Mangalorean Foods']
- 2 . ['Biryani Palace ']
- 3 . ['Karachi Biryani ']
- 4 . ['Paradise Biryani House ']
- 5 . ['Mehfil-E-Biryani ']
- 6 . ['Andhra Meals']
- 7 . ['Paratha Zone']
- 8 . ['Dawat-E-Biryani ']
- 9 . ['Kritongha Restaurant']

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In [ ]:
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