

✓ Zomato Bangalore Restaurant Trends Analysis - MCQ

Answers

This notebook presents the answers to the MCQ questions based on the exploratory data analysis performed on the Zomato dataset for Bangalore.

Answers to the Questions:

```
import pandas as pd

# Load the dataset
zomato_data = pd.read_csv('/content/zomato_data.csv')
geographical_data = pd.read_csv('/content/Geographical Coordinates.csv')

# Data Cleaning
zomato_data['rate'] = zomato_data['rate'].str.replace('/5', '', regex=False)
zomato_data['rate'] = pd.to_numeric(zomato_data['rate'], errors='coerce')
zomato_data['rate'].fillna(zomato_data['rate'].median(), inplace=True)

zomato_data['approx_costfor_two_people'] = zomato_data['approx_costfor_two_peop
zomato_data['approx_costfor_two_people'] = pd.to_numeric(zomato_data['approx_co
zomato_data['approx_costfor_two_people'].fillna(zomato_data['approx_costfor_two

zomato_data['dish_liked'].fillna('Not Available', inplace=True)
zomato_data['cuisines'].fillna('Other', inplace=True)
zomato_data['rest_type'].fillna('Unknown', inplace=True)

zomato_data['votes'].fillna(zomato_data['votes'].median(), inplace=True)

zomato_data['online_order'] = zomato_data['online_order'].map({'Yes': 1, 'No':
zomato_data['book_table'] = zomato_data['book_table'].map({'Yes': 1, 'No': 0})

zomato_data['rate'] = zomato_data['rate'].astype(float)
zomato_data['votes'] = zomato_data['votes'].astype(int)
zomato_data['approx_costfor_two_people'] = zomato_data['approx_costfor_two_peop

# 1. Shape of the dataset
dataset_shape = zomato_data.shape

# 2. Number of restaurants serving North Indian cuisine
north_indian_restaurants = zomato_data[zomato_data['cuisines'].str.contains('No
north_indian_count = north_indian_restaurants.shape[0]

# 3. Most common cuisine offered
most_common_cuisine = zomato_data['cuisines'].value_counts().idxmax()
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# 4. Locality with highest average cost for dining
average_cost_by_locality = zomato_data.groupby('listed_incity')['approx_costfor']
highest_avg_cost_locality = average_cost_by_locality.idxmax()

# 5. Restaurant type with top rating over 1000 votes
topRatedRestaurantType = zomato_data[zomato_data['votes'] > 1000].groupby('r

# 6. Minimum cost to eat out
min_cost = zomato_data['approx_costfor_two_people'].min()

# 7. Percentage of total online orders in Banashankari
banashankari_online_orders_percentage = zomato_data[zomato_data['listed_incity']

# 8. Locality with most restaurants with over 500 votes and rating below 3.0
locality_with_low_rating = zomato_data[(zomato_data['votes'] > 500) & (zomato_d

# 9. Locality for Zomato expansion based on restaurant type diversity
target_locality_expansion = zomato_data['listed_incity'].value_counts().idxmax(

# 10. Average cost difference between buffet and delivery restaurants
avg_cost_diff_buffet_delivery = zomato_data.groupby('listed_intype')['approx_co

# 11. Maximum votes received by any restaurant with online ordering
max_votes_online_order = zomato_data[zomato_data['online_order'] == 1]['votes']

# 12. Average rating of restaurants serving North Indian and Chinese cuisines
north_indian_chinese_restaurants = zomato_data[zomato_data['cuisines'].str.cont
avg_rating_north_indian_chinese = north_indian_chinese_restaurants['rate'].mean

# 13. Most profitable area for Zomato based on potential revenue estimation
most_profitable_area = zomato_data['listed_incity'].value_counts().idxmax()

# 14. Restaurant type to focus on to reduce customer complaints
restaurant_type_to_focus = zomato_data.groupby('rest_type')['rate'].mean().idxm

# 15. Best area for investment (rating > 4.2, votes > 500, including online ord
investment_area = zomato_data[(zomato_data['rate'] > 4.2) & (zomato_data['votes

# Output answers
answers = {
    'Shape of the dataset': dataset_shape,
    'Restaurants serving North Indian cuisine': north_indian_count,
    'Most common cuisine': most_common_cuisine,
    'Locality with highest average cost': highest_avg_cost_locality,
    'Restaurant type with top rating': topRatedRestaurantType,
    'Minimum cost to eat out in Bangalore': min_cost,
    'Banashankari online order percentage': banashankari_online_orders_percenta
    'Locality with low rating and votes': locality_with_low_rating,
    'Locality for Zomato expansion': target_locality_expansion,
    'Cost difference between buffet and delivery': avg_cost_diff_buffet_deliver
    'Max votes for online ordering': max_votes_online_order,
    'Average rating for North Indian and Chinese': avg_rating_north_indian_chin

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Average rating for North Indian and Chinese': avg_rating_north_indian_chin
'Most profitable area for Zomato': most_profitable_area,
'Restaurant type to focus for complaints': restaurant_type_to_focus,
'Best area for investment (rating > 4.2, votes > 500)': investment_area
}

```

answers

➡ <ipython-input-2-fe3e5b3b1364>:10: FutureWarning: A value is trying to be set on a copy of an array. The behavior will change in pandas 3.0. This inplace method will never work because it will not be visible to the caller.
For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method(value, inplace=True)'

```

zomato_data['rate'].fillna(zomato_data['rate'].median(), inplace=True)
<ipython-input-2-fe3e5b3b1364>:14: FutureWarning: A value is trying to be set on a copy of an array. The behavior will change in pandas 3.0. This inplace method will never work because it will not be visible to the caller.
For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method(value, inplace=True)'

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zomato_data['approx_costfor_two_people'].fillna(zomato_data['approx_costfor_two_people'].median(), inplace=True)
<ipython-input-2-fe3e5b3b1364>:16: FutureWarning: A value is trying to be set on a copy of an array. The behavior will change in pandas 3.0. This inplace method will never work because it will not be visible to the caller.
For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method(value, inplace=True)'

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zomato_data['dish_liked'].fillna('Not Available', inplace=True)
<ipython-input-2-fe3e5b3b1364>:17: FutureWarning: A value is trying to be set on a copy of an array. The behavior will change in pandas 3.0. This inplace method will never work because it will not be visible to the caller.
For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method(value, inplace=True)'

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zomato_data['cuisines'].fillna('Other', inplace=True)
<ipython-input-2-fe3e5b3b1364>:18: FutureWarning: A value is trying to be set on a copy of an array. The behavior will change in pandas 3.0. This inplace method will never work because it will not be visible to the caller.
For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method(value, inplace=True)'

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zomato_data['rest_type'].fillna('Unknown', inplace=True)
<ipython-input-2-fe3e5b3b1364>:20: FutureWarning: A value is trying to be set on a copy of an array. The behavior will change in pandas 3.0. This inplace method will never work because it will not be visible to the caller.
For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method(value, inplace=True)'

```

```

zomato_data['votes'].fillna(zomato_data['votes'].median(), inplace=True)
{'Shape of the dataset': (51717, 10),
'Restaurants serving North Indian cuisine': 21085,
'Most common cuisine': 'North Indian',
'Locality with highest average cost': 'Church Street',
'Restaurant type with top rating': 'Bakery',
}

```

```
'Minimum cost to eat out in Bangalore': 40,  
'Banashankari online order percentage': np.float64(63.26767091541136),  
'Locality with low rating and votes': 'Brookefield',  
'Locality for Zomato expansion': 'BTM',  
'Cost difference between buffet and delivery': listed_intype  
Buffet          1295.351474  
Cafes           625.159605  
Delivery        464.100108  
Desserts        392.323963  
Dine-out        590.813319
```