

Project Title - Analyzing Swiggy - Bangalore Delivery Outlet Data

Technologies - Business Intelligence

Domain - Food Industry

Problem Statement -

The online food ordering market includes foods prepared by restaurants, prepared by independent people, and groceries being ordered online and then picked up or delivered. The first online food ordering service, World Wide Waiter (now known as Waiter.com), was founded in 1995. Online food ordering is the process of ordering food from a website or other application. The product can be either ready-to-eat food or food that has not been specially prepared for direction consumption.

Do ETL : Extract-Transform-Load the dataset and find for me some information from this large data. This is form of data mining.

What all information can be achieved by mining this data, would be explained in class by the trainer.

Find key metrics and factors and show the meaningful relationships between attributes.

Import Libraries

In [1]:

```
## Data Preprocessing

import numpy as np
import pandas as pd

## Data Visualizations

import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
import plotly.express as px
import plotly.graph_objects as go

## ignore warnings

import warnings
warnings.filterwarnings(action='ignore')
```

Load Data

In [2]:

```
swiggy_data = pd.read_csv('Swiggy Bangalore Outlet Details.csv')
```

In [3]:

```
### Print the first five rows

swiggy_data.head()
```

Out[3]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	₹ 150
1	Mumbai Tiffin	North Indian, Home Food, Thalís, Combo	Sector 5, HSR	4.4	₹ 400
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	₹ 126
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	₹ 400
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	₹ 450

Identify the shape and columns

In [4]:

```
print("The Number of Rows:", swiggy_data.shape[0])
print("The Number of columns:", swiggy_data.shape[1])
```

The Number of Rows: 118
The Number of columns: 5

In [5]:

```
## Columns

swiggy_data.columns
```

Out[5]:

Index(['Shop_Name', 'Cuisine', 'Location', 'Rating', 'Cost_for_Two'], dtype='object')

Validating Duplicate Records

In [6]:

```
print("The Number of Duplicate rows:", swiggy_data.duplicated())
```

The Number of Duplicate rows: 0 False
1 False
2 False
3 False
4 False
...
113 False
114 False
115 False
116 False
117 False
Length: 118, dtype: bool

Insights

- No Duplicate records found.

Missing Data Analysis

In [7]:

```
total_null = swiggy_data.isna().sum().sort_values(ascending=False)  
total_null
```

Out[7]:

Shop_Name 0
Cuisine 0
Location 0
Rating 0
Cost_for_Two 0
dtype: int64

Insights

- No Missing records in dataset.

Unique Values (Counts)

In [8]:

```
swiggy_data.nunique()
```

Out[8]:

Shop_Name 115
Cuisine 79
Location 65
Rating 13
Cost_for_Two 30
dtype: int64

Data Preparation

- Data Type Validation

In [9]:

```
swiggy_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 118 entries, 0 to 117
Data columns (total 5 columns):
 #   Column          Non-Null Count  Dtype  
---  --
 0   Shop_Name       118 non-null   object 
 1   Cuisine         118 non-null   object 
 2   Location        118 non-null   object 
 3   Rating          118 non-null   object 
 4   Cost_for_Two    118 non-null   object 
dtypes: object(5)
memory usage: 4.7+ KB
```

In [10]:

```
## rating
```

```
swiggy_data.Rating.unique()
```

Out[10]:

```
array(['4.3', '4.4', '4.1', '4.2', '3.9', '3.8', '4', '3.7', '3.6', '4.8',
       '4.5', '4.6', '--'], dtype=object)
```

In [11]:

```
## replace the null rating into "zero" rating
```

```
swiggy_data['Rating'] = swiggy_data.Rating.str.replace('--','0.').astype(float)
```

In [12]:

```
swiggy_data['Rating'].unique()
```

Out[12]:

```
array([4.3, 4.4, 4.1, 4.2, 3.9, 3.8, 4. , 3.7, 3.6, 4.8, 4.5, 4.6, 0. ])
```

In [13]:

```
## Analyzing the cost for two..
```

```
swiggy_data['Cost_for_Two'].unique()
```

Out[13]:

```
array(['₹ 150', '₹ 400', '₹ 126', '₹ 450', '₹ 350', '₹ 200', '₹ 500',
       '₹ 247', '₹ 550', '₹ 300', '₹ 129', '₹ 250', '₹ 268', '₹ 600',
       '₹ 527', '₹ 130', '₹ 257', '₹ 280', '₹ 399', '₹ 220', '₹ 800',
       '₹ 100', '₹ 178', '₹ 120', '₹ 251', '₹ 650', '₹ 132', '₹ 153',
       '₹ 219', '₹ 193'], dtype=object)
```

In [14]:

```
## Removeing the Rupees symbol from the column to analyze the rate..
```

```
def data_preprocessing(string):
    cost=string.split(' ')[1]
    return cost
```

In [15]:

```
swiggy_data['Cost_for_Two'] = swiggy_data['Cost_for_Two'].apply(data_preprocessing)
```

In [16]:

```
# converting string datatype to int datatype
```

```
swiggy_data['Cost_for_Two'] = swiggy_data['Cost_for_Two'].astype('int')
```

In [17]:

```
swiggy_data['Cost_for_Two'].unique()
```

Out[17]:

```
array([150, 400, 126, 450, 350, 200, 500, 247, 550, 300, 129, 250, 268,
       600, 527, 130, 257, 280, 399, 220, 800, 100, 178, 120, 251, 650,
       132, 153, 219, 193])
```

In [18]:

```
## datatypes
```

```
swiggy_data.dtypes
```

Out[18]:

```
Shop_Name      object
Cuisine         object
Location        object
Rating         float64
Cost_for_Two   int32
dtype: object
```

In [19]:

```
## information
```

```
swiggy_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 118 entries, 0 to 117
Data columns (total 5 columns):
#   Column          Non-Null Count  Dtype
---  -
0   Shop_Name       118 non-null   object
1   Cuisine         118 non-null   object
2   Location        118 non-null   object
3   Rating          118 non-null   float64
4   Cost_for_Two    118 non-null   int32
dtypes: float64(1), int32(1), object(3)
memory usage: 4.3+ KB
```

In [20]:

```
## Descriptive Statistics
```

```
swiggy_data.describe()
```

Out[20]:

	Rating	Cost_for_Two
count	118.000000	118.000000
mean	4.061864	321.008475
std	0.430845	137.286804
min	0.000000	100.000000
25%	4.000000	204.750000
50%	4.100000	300.000000
75%	4.300000	400.000000
max	4.800000	800.000000

Observations

- Mean **Rating** for Swiggy is **4.061** Which is **Good** for Customers.
- Average **Cost for Two** person is Approximately **321** Rupees.
- Max **Rating** and **Cost** for two is **4.8** and **800** rupees Approximately.
- Bangalore City **Restaurants** Rating lies in between **4.0** to **4.8**.

Shops that have minimum cost and maxmiun Rating

In [21]:

```
## Rating
```

```
swiggy_data.sort_values(by='Rating', ascending=False).head()
```

Out[21]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
78	Khichdi Experiment	Home Food, Healthy Food, Indian	Koramangala, Koramangala	4.8	200
94	Corner House Ice Cream	Ice Cream, Desserts	7th Block, Koramangala	4.6	250
82	Natural Ice Cream	Ice Cream	Near Wipro Park Signal, Koramangala	4.6	150
80	Chinese Bae	Chinese, Thai	BTM, BTM	4.5	450
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400

In [22]:

```
## Cost for Two

swiggy_data.sort_values(by='Cost_for_Two').head()
```

Out[22]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
79	Tandoori Merchant	Andhra, Biryani, Chinese, Desserts, Fast Food,...	4th Cross, BTM	4.2	100
89	99 VARIETY DOSA AND JUICE-Malli mane food court	Fast Food, Juices, North Indian	Koramangala 1st block, Koramangala	4.1	100
95	NIC Natural Ice Creams	Ice Cream, Desserts	Koramangala, Koramangala	4.2	120
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126
21	Maa Di Hatti	Chinese, Healthy Food, North Indian	Jakkasandra Extn, Koramangala	4.0	129

Insights

- Most Likes food is from **Khichdi Experiment** which have **Home Food, Healthy Food, Indian Cuisines** and have highest rating **4.8**.
- **Ice Cream** business is more liked in **Koramangala**
- Minimum **Cost for Two** is from Shop **Tandoori Merchant** with **Average Rating**.

Distribution of "Ratings".

In [23]:

```
swiggy_data = swiggy_data[swiggy_data['Rating'] > 0]
swiggy_data
```

Out[23]:

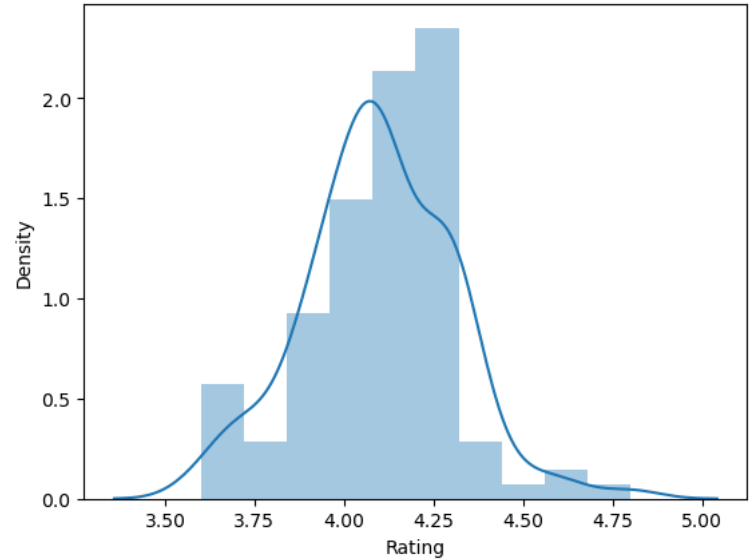
	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150
1	Mumbai Tiffin	North Indian, Home Food, Thalís, Combo	Sector 5, HSR	4.4	400
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	450
...
113	Wok Paper Scissors	Pan-Asian, Chinese, Asian	JNC Road, Koramangala	3.9	219
114	Savoury Restaurant	Arabian, Middle Eastern, North Indian, Grill, ...	Madiwala, BTM	4.1	600
115	Royal Treat	North Indian, Chinese, Seafood, Biryani	5th block Koramangala, Koramangala	4.2	193
116	Thali 99	North Indian	Koramangala, Koramangala	4.3	200
117	Mani's Dum Biryani	Andhra, Biryani	1st Block, Koramangala	4.2	400

117 rows × 5 columns

In [24]:

```
### Distribution of Rating

sns.distplot(swiggy_data['Rating']);
```



Insights

- From the **Distribution Plot**, We can conclude that **More than 50% Restaurants** are having a **Rating** greater than **4.1** with a maximum Rating of **4.8** which is considered a decent Rating.
- And it also means that, most of these Restaurants are doing very well & Rated Accordingly to the customers.

Area Wise Analysis

In [25]:

```
swiggy_data['Location'].unique()
```

Out[25]:

```
array(['Koramangala, Koramangala', 'Sector 5, HSR',
      '6th Block, Koramangala', 'HSR, HSR', '5th Block, Koramangala',
      'Koramangala 4th Block, Koramangala', 'BTM 2nd Stage, BTM',
      'BTM, BTM', '9th Main road, Koramangala', 'outer ring road, BTM',
      '7th Block, Koramangala', '1st MAIN, Koramangala',
      'Bommanahalli, BTM', '6th block, Koramangala', 'Sector 4, HSR',
      'BTM 1st stage, BTM', 'Jakkasandra Extn, Koramangala',
      'Marutnagar Main Road, BTM', '1st Block, Koramangala',
      '4th Cross, BTM', 'koramangala, Koramangala', 'BTM 2nd stage, BTM',
      '3rd main, BTM', 'HSR 1st sector, HSR', 'Sector 7, HSR',
      '3rd Sector, HSR', 'Chocolate Factory Road, BTM',
      '16th Main Road, 2nd Stage, BTM', '1st Stage, BTM',
      'Hosur Main Road, Koramangala',
      '1st Cross Road, 5th Block, Near Jyothi Nivas College, Koramangala',
      'Mico Layout, BTM', '4th Cross, Koramangala',
      '4th Block, Koramangala', 'Intermediate Ring Road, Koramangala',
      '3rd sector, HSR', '8TH BLOCK, Koramangala',
      '4th b cross, Koramangala', 'SG palaya, BTM',
      'Venkatapura Main Rd, Teacher's Colony, Jakkasandra, HSR',
      'KHB Colony, Koramangala', 'Sector 3, HSR',
      'Bannerghatta Road, Jayanagar',
      '80 Feet Peripheral Road, Koramangala', 'Btm, BTM',
      'Near Wipro Park Signal, Koramangala', '16th Main Road, BTM',
      '2nd Stage, BTM', 'Kuvempu Nagar, Stage 2, BTM',
      'Koramangala 1st block, Koramangala',
      '5th Block Kormangala, Koramangala', 'Koramangla, Koramangala',
      '5th block, Koramangala', '9th Main Rd, Sector 6, HSR Layout, HSR',
      'Jay Bheema Nagar, BTM', 'Koramangala 6th block, Koramangala',
      'Maruthi Nagar, BTM', 'Sector 6, HSR',
      'Jakkasandra Village, Koramangala', '4th block, Koramangala',
      'Madiwala Junction, BTM', 'kormangala, Koramangala',
      'JNC Road, Koramangala', 'Madiwala, BTM',
      '5th block Koramangala, Koramangala'], dtype=object)
```

In [26]:

```
swiggy_data['Location'].nunique()
```

Out[26]:

65

In [27]:

```
locations = []
def dis():
    for i in swiggy_data.Location:
        locations.append(i.split(",")[-1])
    return locations

location = dis()
location
```

Out[27]:

```
['Koramangala',
 'HSR',
 'Koramangala',
 'HSR',
 'Koramangala',
 'Koramangala',
 'BTM',
 'BTM',
 'HSR',
 'Koramangala',
 'BTM',
 'Koramangala',
 'Koramangala',
 'Koramangala',
 'Koramangala',
 'Koramangala',
 'Koramangala',
 'Koramangala',
 'BTM']
```

In [28]:

```
area = set(location)
len(area)
```

Out[28]:

4

In [29]:

```
area
```

Out[29]:

{' BTM', ' HSR', ' Jayanagar', ' Koramangala'}

In [30]:

```
swiggy_data['area'] = location
```

In [31]:

```
swiggy_data.head()
```

Out[31]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150	Koramangala
1	Mumbai Tiffin	North Indian, Home Food, Thalís, Combo	Sector 5, HSR	4.4	400	HSR
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126	Koramangala
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400	HSR
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	450	Koramangala

In [32]:

```
swiggy_koramangala = swiggy_data[swiggy_data['Location'].str.contains(r'Koramangala')]
swiggy_koramangala
```

Out[32]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150	Koramangala
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126	Koramangala
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	450	Koramangala
5	Kitchens of Punjab	North Indian	Koramangala 4th Block, Koramangala	4.2	350	Koramangala
9	Yumlane Pizza	Pizzas, Italian, Mexican	9th Main road, Koramangala	3.8	150	Koramangala
...
112	Kritunga	Andhra, Biryani	5th Block, Koramangala	3.9	500	Koramangala
113	Wok Paper Scissors	Pan-Asian, Chinese, Asian	JNC Road, Koramangala	3.9	219	Koramangala
115	Royal Treat	North Indian, Chinese, Seafood, Biryani	5th block Koramangala, Koramangala	4.2	193	Koramangala
116	Thali 99	North Indian	Koramangala, Koramangala	4.3	200	Koramangala
117	Mani's Dum Biryani	Andhra, Biryani	1st Block, Koramangala	4.2	400	Koramangala

64 rows × 6 columns

In [33]:

```
swiggy_HSR = swiggy_data[swiggy_data['Location'].str.contains(r'HSR')]
swiggy_HSR
```

Out[33]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
1	Mumbai Tiffin	North Indian, Home Food, Thalís, Combo	Sector 5, HSR	4.4	400	HSR
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400	HSR
8	Hotel Manu	South Indian, Kerala, Chinese, North Indian	HSR, HSR	4.1	350	HSR
19	Shree Khana Khazana	Indian, Rajasthani	Sector 4, HSR	4.1	350	HSR
24	New Udupi Grand	Chinese, Jain, North Indian, South Indian	HSR, HSR	4.3	150	HSR
36	Biriyani Zone	North Indian, Chinese, Biryani	HSR 1st sector, HSR	4.1	600	HSR
37	Gongura's	North Indian, Chinese, Biryani	Sector 7, HSR	3.8	300	HSR
39	Leon Grill	Turkish, Portuguese, American	3rd Sector, HSR	4.3	300	HSR
41	Cakewala	Desserts	HSR, HSR	4.3	450	HSR
57	Donne Biriyani House	South Indian	3rd sector, HSR	4.0	300	HSR
58	Nanda's	Andhra, Biryani	HSR, HSR	4.0	400	HSR
61	Cake Garden	Desserts, Bakery	HSR, HSR	3.9	250	HSR
71	Nizams Biryani	Biryani, Juices, Kebabs	Venkatapura Main Rd, Teacher's Colony, Jakkasa...	3.6	200	HSR
73	Punjabi Rasoi	North Indian	Sector 3, HSR	4.0	800	HSR
99	Dindigul Thalapakatti Biriyani	North Indian	HSR, HSR	4.1	650	HSR
101	Easy Bites	Snacks, American	9th Main Rd, Sector 6, HSR Layout, HSR	3.8	200	HSR
107	Junior Kuppanna	Chettinad, South Indian	Sector 6, HSR	4.0	550	HSR

In [34]:

```
swiggy_jayanagar = swiggy_data[swiggy_data['Location'].str.contains(r'Jayanagar')]
swiggy_jayanagar
```

Out[34]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
74	CRAVY WINGS - The American Diner	American, Fast Food	Bannerghatta Road, Jayanagar	4.3	300	Jayanagar

In [35]:

```
swiggy_BTMTM = swiggy_data[swiggy_data['Location'].str.contains(r'BTM')]  
swiggy_BTMTM
```

Out[35]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
6	99 VARIETY DOSAAND PAV BHAJI- Malli Mane Food...	Fast Food, North Indian, Chinese	BTM 2nd Stage, BTM	4.1	200	BTM
7	La Pino'z Pizza	Italian	BTM, BTM	3.9	500	BTM
10	Ambur Star Briyani	Chinese, South Indian, North Indian, Desserts,...	outer ring road, BTM	4.1	500	BTM
17	Sri Lakshmi Dhaba	North Indian	Bommanahalli, BTM	3.7	200	BTM
20	Just Bake - Cakes & confectioners	Desserts, Bakery	BTM 1st stage, BTM	4.3	300	BTM
22	Hotel Godavari	North Indian, Chinese, Hyderabad	Marutnagar Main Road, BTM	4.0	400	BTM
25	Swad Punjab da	Indian	BTM, BTM	4.1	250	BTM
27	High N Hungry	Andhra, Biryani, Chinese, Desserts, Fast Food,...	4th Cross, BTM	4.1	350	BTM
31	Bengali Fun Foods	North Indian	BTM 2nd stage, BTM	4.2	300	BTM
33	Oottupura	Kerala, South Indian	BTM, BTM	4.3	268	BTM
35	Hyderabad Biryani Hub	North Indian, Chinese, Biryani	3rd main, BTM	3.9	450	BTM
40	Venu's Donne Biryani	Biryani	Chocolate Factory Road, BTM	4.3	300	BTM
42	Swadista Aahar	South Indian, Snacks, North Indian, Chinese	16th Main Road, 2nd Stage, BTM	4.1	250	BTM
44	Svadu Pure Ghee Sweets	Desserts, Fast Food, Sweets, Chaat	1st Stage, BTM	4.1	200	BTM
45	Sai Abhiruchi	Chinese, South Indian, Andhra, Hyderabad	BTM, BTM	3.7	250	BTM
49	Balaji's Veg	North Indian, Chinese, South Indian	Mico Layout, BTM	4.1	300	BTM
51	Donne Biryani Mandi	Biryani, Andhra, South Indian	BTM, BTM	4.0	150	BTM
60	calicut cafe restaurant	Fast Food, Beverages	BTM, BTM	4.1	280	BTM
65	World of asia	Beverages, Chinese	BTM, BTM	4.0	250	BTM
66	Ghar Ka Khana	North Indian	BTM, BTM	4.2	220	BTM
68	KANNUR FOOD POINT	Kerala, Chinese	SG palaya, BTM	3.9	300	BTM
69	KANNOOR RESTAURANT	North Indian, Chinese	BTM, BTM	4.0	250	BTM
70	Fattoush	Arabian, Beverages, Biryani, Chinese, Desserts...	BTM, BTM	3.9	400	BTM
76	BIRIYANI TASTE MASTH(BTM)	North Indian, South Indian	Btm, BTM	4.2	300	BTM
79	Tandoori Merchant	Andhra, Biryani, Chinese, Desserts, Fast Food,...	4th Cross, BTM	4.2	100	BTM
80	Chinese Bae	Chinese, Thai	BTM, BTM	4.5	450	BTM
83	Abhiruchi Hotel	Chinese, Hyderabad, Biryani, Indian, South In...	BTM, BTM	4.0	250	BTM
84	Punjabi Swag	Punjabi, North Indian, Chinese, Fast Food, Hea...	16th Main Road, BTM	3.7	400	BTM
86	Gyaani Da Punjabi Dhaba	North Indian	2nd Stage, BTM	4.0	500	BTM
87	Biryani Bhatti	Biryani, Hyderabad, Andhra, North Indian, Sou...	Kuvempu Nagar, Stage 2, BTM	4.1	350	BTM
92	BIRYANI CRAFTS	Indian	BTM, BTM	4.1	500	BTM
104	R.B Food Point	Chinese, North Indian	Jay Bheema Nagar, BTM	3.7	350	BTM
106	New Tasty Cafeteria	Andhra, Chettinad, Chinese, Mughlai, North Indian	Maruthi Nagar, BTM	4.0	350	BTM
110	Biryani Pot	North Indian, Biryani	Madiwala Junction, BTM	4.0	500	BTM
114	Savoury Restaurant	Arabian, Middle Eastern, North Indian, Grill, ...	Madiwala, BTM	4.1	600	BTM

In [36]:

```
## koramangala  
  
print("The Number of Rows in Koramangala :", swiggy_koramangala.shape[0])  
print("The Number of Columns in Koramangala: ", swiggy_koramangala.shape[1])
```

The Number of Rows in Koramangala : 64
The Number of Columns in Koramangala: 6

In [37]:

```
## HSR  
  
print("The Number of Rows in HSR :", swiggy_HSR.shape[0])  
print("The Number of Columns in HSR:", swiggy_HSR.shape[1])
```

The Number of Rows in HSR : 17
The Number of Columns in HSR: 6

In [38]:

```
## BTM
```

```
print("The Number of Rows in BTM:", swiggy_BTMT.shape[0])  
print("The Number of Columns in BTM:", swiggy_BTMT.shape[1])
```

The Number of Rows in BTM: 35
The Number of Columns in BTM: 6

As we can see the Restaurants are given from only 3 major Locations.

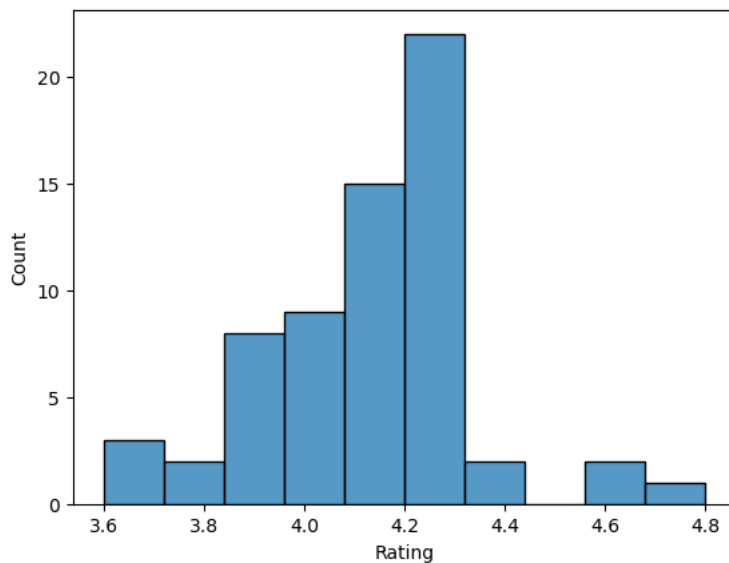
Koramangala Area

In [39]:

```
sns.histplot(swiggy_koramangala['Rating'], bins = 10)
```

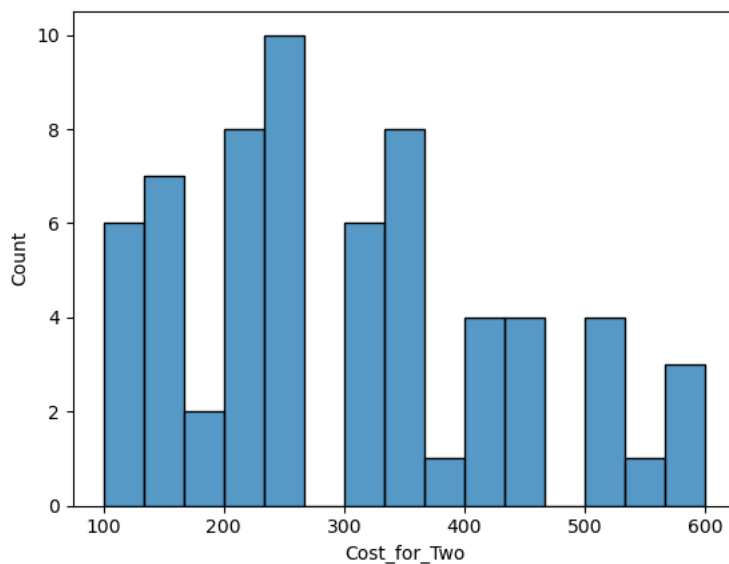
Out[39]:

<AxesSubplot: xlabel='Rating', ylabel='Count'>



In [40]:

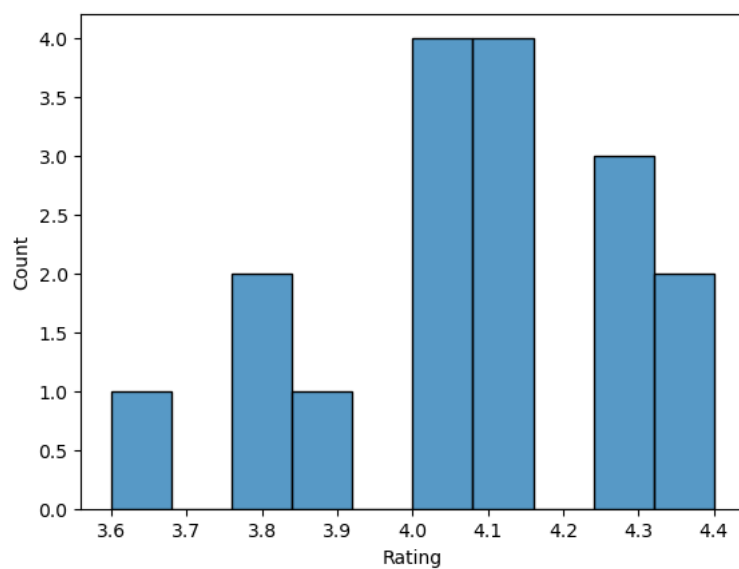
```
sns.histplot(swiggy_koramangala['Cost_for_Two'], bins = 15);
```



HSR Area

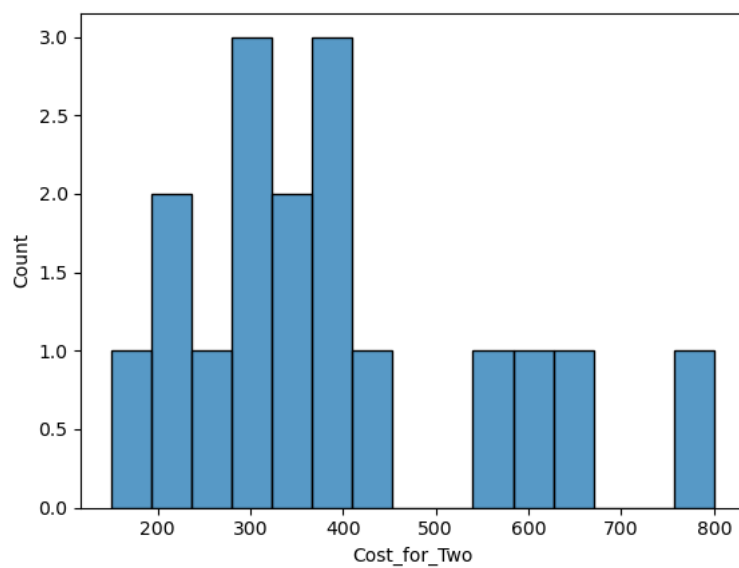
In [41]:

```
sns.histplot(swiggy_HSR['Rating'], bins = 10);
```



In [42]:

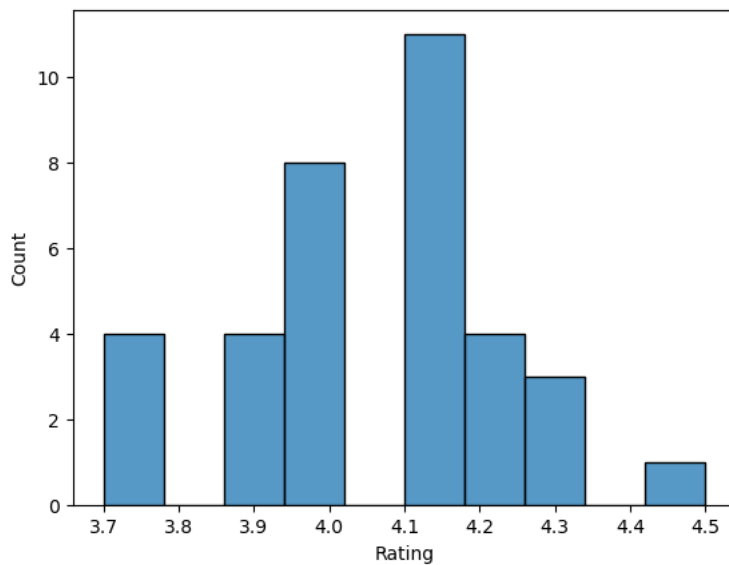
```
sns.histplot(swiggy_HSR['Cost_for_Two'], bins = 15);
```



BTM Area

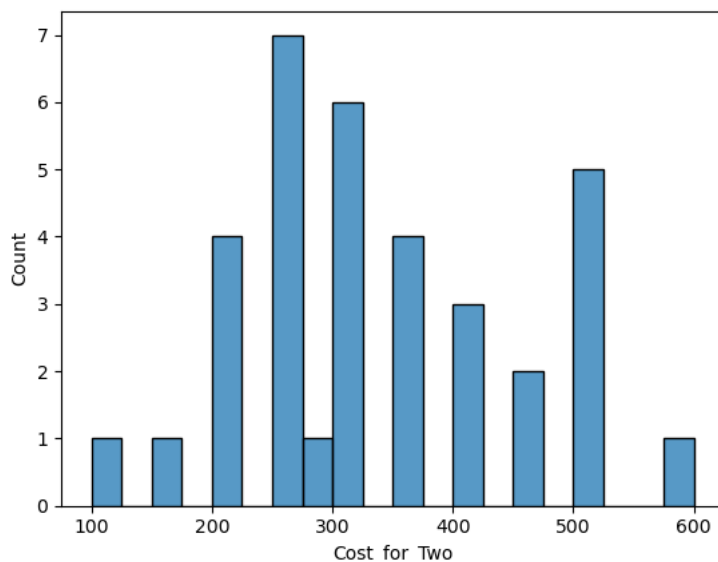
In [43]:

```
sns.histplot(swiggy_BTMTM['Rating'], bins =10);
```



In [44]:

```
sns.histplot(swiggy_BTMTM['Cost_for_Two'], bins =20);
```



Insights

As we can see that the Area-Wise Rating & Cost for Two Varies as Following-

Koramangala

- Most of Restaurant has **4.0** to **4.3** Rating And Approx.
- Cost of Two people lies between 200 to 350. (Max. Cost goes upto 600)

HSR

- Most of Restaurant has **4.0** or above Rating and Approx.
- Cost of Two people lies between 300 to 400. (Max. Cost goes upto 800).

BTM

- Most of Restaurant has **4.0** to **4.2** Rating and Approx.
- Cost of Two people lies between 200 to 350. (Max Cost goes upto 600)

From the above we can conclude the most Costly Area is "HSR".

Revenue Area Wise

In [45]:

```
Revenue = {}

Revenue['BTM'] = swiggy_BTMTM['Cost_for_Two'].sum()
Revenue['HSR'] = swiggy_HSR['Cost_for_Two'].sum()
Revenue['Jayanagar'] = swiggy_jayanagar['Cost_for_Two'].sum()
Revenue['Koramangala'] = swiggy_koramangala['Cost_for_Two'].sum()

Rev = Revenue.values()
city=Revenue.keys()

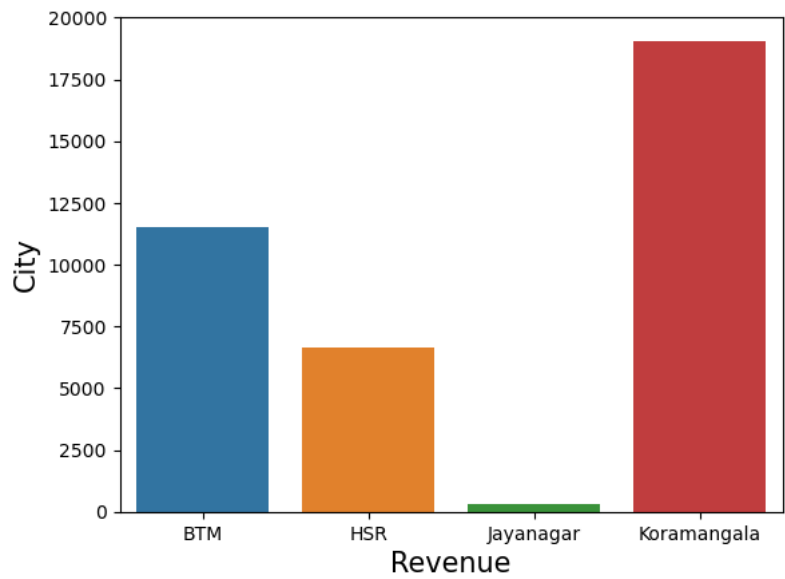
Revenue=pd.DataFrame()
Revenue['City'] = city
Revenue['Revenue'] = Rev
Revenue
```

Out[45]:

	City	Revenue
0	BTM	11518
1	HSR	6650
2	Jayanagar	300
3	Koramangala	19061

In [46]:

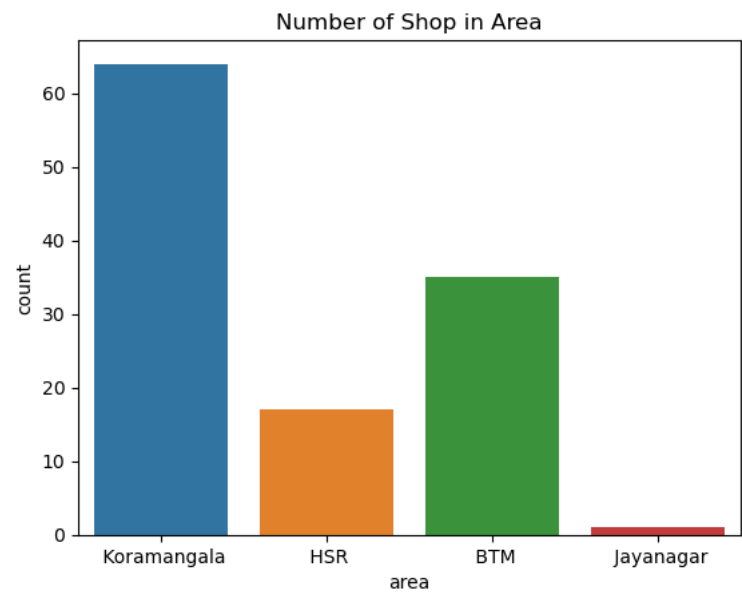
```
sns.barplot(x=Revenue['City'], y=Revenue['Revenue'], data=Revenue)
plt.xlabel('Revenue', fontsize=15)
plt.ylabel('City', fontsize=15)
plt.show()
```



In [47]:

```
## Number of Shops according to area

sns.countplot(swiggy_data['area'])
plt.title("Number of Shop in Area");
```



Insights

- **Koramangala & BTM** Area has the most earning **Revenue**.
- **Maximum** shops are from **Koramangala** Area.

Analyze "Approx Cost for Two People" Vs Rating. Find out the Relationship between Them.

In [48]:

```
## Analyze "Approx Cost for Two People" Vs Rating. Find out the Relationship between Them.

Highest_Rated_Restaurants = swiggy_data[swiggy_data['Rating'] >= 4.0]
Highest_Rated_Restaurants
```

Out[48]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150	Koramangala
1	Mumbai Tiffin	North Indian, Home Food, Thalís, Combo	Sector 5, HSR	4.4	400	HSR
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126	Koramangala
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400	HSR
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	450	Koramangala
...
111	Bowl 99	North Indian, South Indian	kormangala, Koramangala	4.4	200	Koramangala
114	Savoury Restaurant	Arabian, Middle Eastern, North Indian, Grill, ...	Madiwala, BTM	4.1	600	BTM
115	Royal Treat	North Indian, Chinese, Seafood, Biryani	5th block Koramangala, Koramangala	4.2	193	Koramangala
116	Thali 99	North Indian	Koramangala, Koramangala	4.3	200	Koramangala
117	Mani's Dum Biryani	Andhra, Biryani	1st Block, Koramangala	4.2	400	Koramangala

92 rows × 6 columns

In [49]:

```
Highest_Rated_Restaurants = Highest_Rated_Restaurants.loc[:,['Shop_Name', 'Rating', 'Cost_for_Two']]
Highest_Rated_Restaurants
```

Out[49]:

	Shop_Name	Rating	Cost_for_Two
0	Kanti Sweets	4.3	150
1	Mumbai Tiffin	4.4	400
2	Sri Krishna sagar	4.1	126
3	Al Daaz	4.4	400
4	Beijing Bites	4.1	450
...
111	Bowl 99	4.4	200
114	Savoury Restaurant	4.1	600
115	Royal Treat	4.2	193
116	Thali 99	4.3	200
117	Mani's Dum Biryani	4.2	400

92 rows × 3 columns

In [50]:

```
Highest_Rated_Restaurants = Highest_Rated_Restaurants.groupby(['Shop_Name', 'Rating'])['Cost_for_Two'].agg('mean')
Highest_Rated_Restaurants = Highest_Rated_Restaurants.reset_index()
Highest_Rated_Restaurants
```

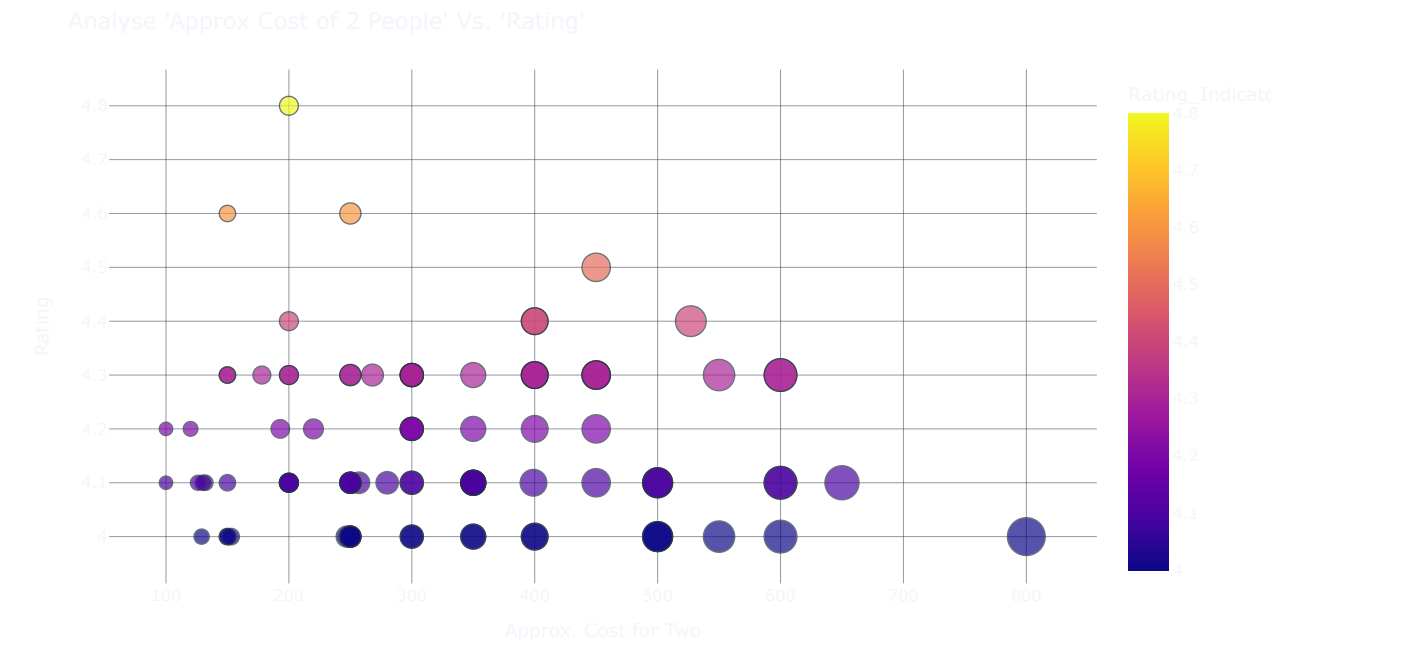
Out[50]:

	Shop_Name	Rating	Cost_for_Two
0	99 VARIETY DOSA AND JUICE-Malli mane food court	4.1	100.0
1	99 VARIETY DOSA AND PAV BHAJI- Malli Mane Food...	4.1	200.0
2	A2B - Adyar Ananda Bhavan	4.2	450.0
3	Abhiruchi Hotel	4.0	250.0
4	Al Daaz	4.4	400.0
...
86	Venu's Donne Biryani	4.3	300.0
87	WarmOven Cake & Desserts	4.1	200.0
88	World of asia	4.0	250.0
89	XO Belgian Waffle	4.3	250.0
90	calicut cafe restaurant	4.1	280.0

91 rows × 3 columns

```
In [51]:
fig = px.scatter(x = Highest_Rated_Restaurants['Cost_for_Two'],
                y = Highest_Rated_Restaurants['Rating'],
                color=Highest_Rated_Restaurants['Rating'],
                size=Highest_Rated_Restaurants['Cost_for_Two'],
                labels = {'x':'Approx. Cost for Two', 'y':'Rating', 'color':'Rating_Indicator'})

fig.update_layout(template = 'plotly_dark', title="Analyse 'Approx Cost of 2 People' Vs. 'Rating' ")
fig.show()
```



Insights

- From the **Scatter Plot**, we clearly assume that - Bigger the Bubble, Higher the Price is similarly, Smaller the Bubble, Lesser the Price is.
- Furthermore, We can also say that, **Most of the Affordable/Budgeted Restaurants** are having **Excellent Rating** as well.
 - Same we can see, For **Approx. Cost of 200, 150, 250 and 450** the **Ratings were 4.8, 4.6 and 4.5** Respectively.
 - This might be because **Most of the people prefer Affordable/Budget Restaurants** Which also Provides **GOod Quality** of **Cuisines**.
- On the other hand, There are **Few Expensive Restaurants** who **doesn't** have that much **Rating** and they are **Expensive**.
 - Restaurnts** which costs around **600 to 800** for **Two People** are having the **Ratings in between 4.0 to 4.1** which is **Too less** as compared to **Affordable/Budgeted Restaurants**.

Analyze the "Affordable/Budgeted" And Highest Rated Restaurnts of bangalore.

```
In [52]:
Affordable_Restaurants = swiggy_data[(swiggy_data['Cost_for_Two'] <= 500) & (swiggy_data['Rating'] >= 4.0)]
Affordable_Restaurants
```

Out[52]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two	area
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150	Koramangala
1	Mumbai Tiffin	North Indian, Home Food, Thalís, Combo	Sector 5, HSR	4.4	400	HSR
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126	Koramangala
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400	HSR
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	450	Koramangala
...
110	Biryani Pot	North Indian, Biryani	Madiwala Junction, BTM	4.0	500	BTM
111	Bowl 99	North Indian, South Indian	kormangala, Koramangala	4.4	200	Koramangala
115	Royal Treat	North Indian, Chinese, Seafood, Biryani	5th block Koramangala, Koramangala	4.2	193	Koramangala
116	Thali 99	North Indian	Koramangala, Koramangala	4.3	200	Koramangala
117	Mani's Dum Biryani	Andhra, Biryani	1st Block, Koramangala	4.2	400	Koramangala

82 rows × 6 columns

In [53]:

```
Affordable_Restaurnts = Affordable_Restaurants.groupby(['Shop_Name', 'Rating'])['Cost_for_Two'].agg('mean')
Affordable_Restaurnts = Affordable_Restaurnts.reset_index()
Affordable_Restaurnts
```

Out[53]:

	Shop_Name	Rating	Cost_for_Two
0	99 VARIETY DOSA AND JUICE-Malli mane food court	4.1	100.0
1	99 VARIETY DOSA AND PAV BHAJI- Malli Mane Food...	4.1	200.0
2	A2B - Adyar Ananda Bhavan	4.2	450.0
3	Abhiruchi Hotel	4.0	250.0
4	Al Daaz	4.4	400.0
...
76	Venu's Donne Biryani	4.3	300.0
77	WarmOven Cake & Desserts	4.1	200.0
78	World of asia	4.0	250.0
79	XO Belgian Waffle	4.3	250.0
80	calicut cafe restaurant	4.1	280.0

81 rows × 3 columns

In [54]:

```
Affordable_Restaurnts.sort_values(by=['Rating'], ascending=False, inplace=True)
Affordable_Restaurnts
```

Out[54]:

	Shop_Name	Rating	Cost_for_Two
41	Khichdi Experiment	4.8	200.0
54	Natural Ice Cream	4.6	150.0
21	Corner House Ice Cream	4.6	250.0
20	Chinese Bae	4.5	450.0
50	Mumbai Tiffin	4.4	400.0
...
55	New Tasty Cafeteria	4.0	350.0
53	Nandhana Palace	4.0	500.0
52	Nanda's	4.0	400.0
45	Maa Di Hatti	4.0	129.0
29	Gyaani Da Punjabi Dhaba	4.0	500.0

81 rows × 3 columns

Visualize the Pocket Friendly and Highest Rated Restaurants.

In [55]:

```
Pocket_Friendly_Restaurnts = Affordable_Restaurnts.sort_values(by='Cost_for_Two', ascending=True)
Pocket_Friendly_Restaurnts
```

Out[55]:

	Shop_Name	Rating	Cost_for_Two
72	Tandoori Merchant	4.2	100.0
0	99 VARIETY DOSA AND JUICE-Malli mane food court	4.1	100.0
51	NIC Natural Ice Creams	4.2	120.0
68	Sri Krishna sagar	4.1	126.0
45	Maa Di Hatti	4.0	129.0
...
5	Ambur Star Briyani	4.1	500.0
7	BIRYANI CRAFTS	4.1	500.0
53	Nandhana Palace	4.0	500.0
46	Madeena Hotel	4.1	500.0
29	Gyaani Da Punjabi Dhaba	4.0	500.0

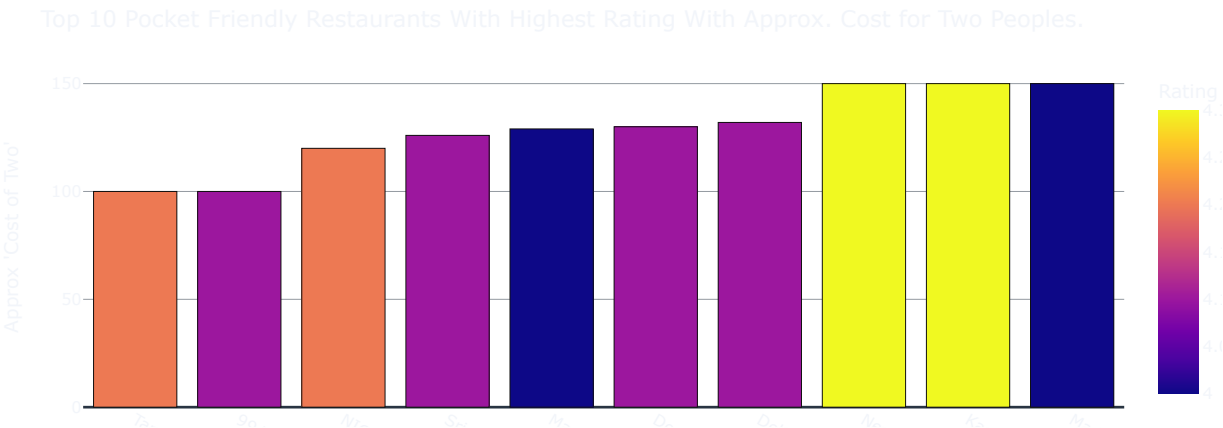
81 rows × 3 columns

In [56]:

```
## Top 10 pocket friendly Restaurants with Highest Ratings.

fig = px.bar(data_frame = Pocket_Friendly_Restaurants,
             x = Pocket_Friendly_Restaurants['Shop_Name'][0:10],
             y = Pocket_Friendly_Restaurants['Cost_for_Two'][0:10],
             color = Pocket_Friendly_Restaurants['Rating'][0:10],
             labels = {'X': 'Restaurants Name', 'y': "Approx 'Cost of Two'", 'color': 'Rating'})

fig.update_layout(template='plotly_dark',
                  title = 'Top 10 Pocket Friendly Restaurants With Highest Rating With Approx. Cost for Two Peoples.')
fig.show()
```



Visualize the Immoderate Restaurants.

In [57]:

```
Immoderate_Restaurants = Highest_Rated_Restaurants.sort_values(by='Cost_for_Two', ascending=False)
Immoderate_Restaurants
```

Out[57]:

	Shop_Name	Rating	Cost_for_Two
67	Punjabi Rasoi	4.0	800.0
26	Dindigul Thalapakatti Biryani	4.1	650.0
73	Savoury Restaurant	4.1	600.0
81	Taco Bell	4.3	600.0
66	Pizza Hut	4.0	600.0
...
49	Maa Di Hatti	4.0	129.0
77	Sri Krishna sagar	4.1	126.0
56	NIC Natural Ice Creams	4.2	120.0
82	Tandoori Merchant	4.2	100.0
0	99 VARIETY DOSA AND JUICE-Malli mane food court	4.1	100.0

91 rows × 3 columns

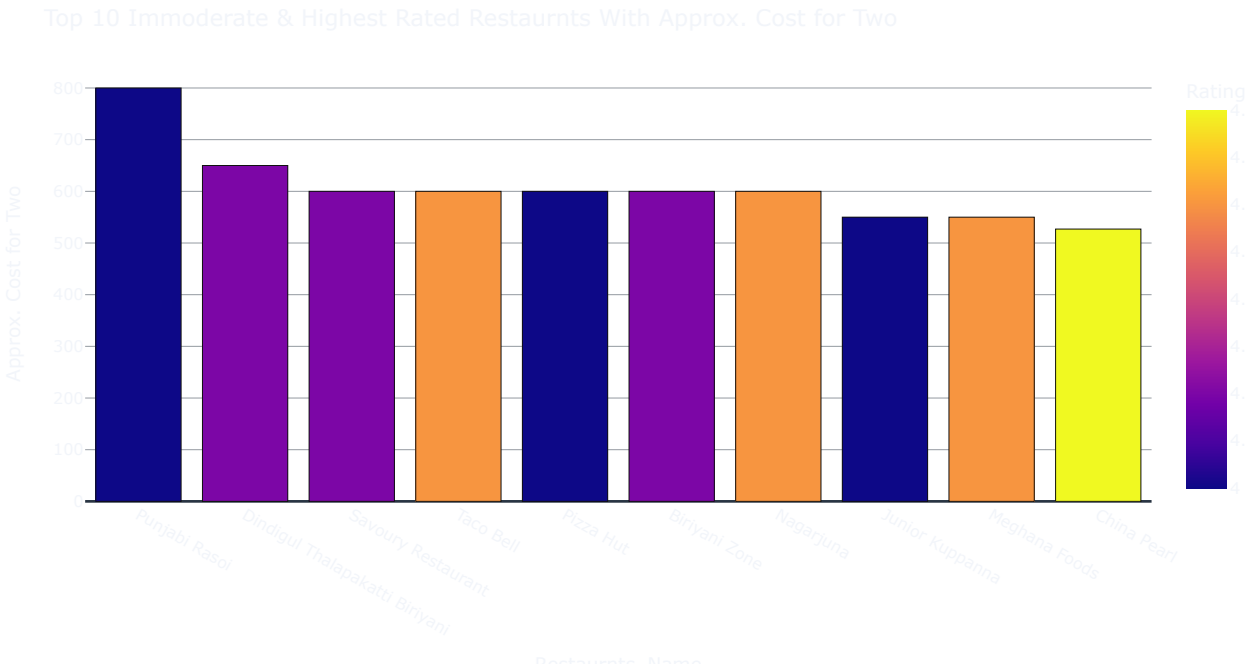
In [58]:

```
### Top 10 Immoderate Restaurants

fig = px.bar(data_frame= Immoderate_Restaurnts,
              x = Immoderate_Restaurnts['Shop_Name'][0:10],
              y = Immoderate_Restaurnts['Cost_for_Two'][0:10],
              color=Immoderate_Restaurnts['Rating'][0:10],
              labels = {'x':'Restaurnts_Name', 'y':'Approx. Cost for Two', 'color':'Rating'})

fig.update_layout(template='plotly_dark',
                  title="Top 10 Immoderate & Highest Rated Restaurnts With Approx. Cost for Two")

fig.show()
```



Cuisine Analysis

In [59]:

```
swiggy_data.Cuisine
```

Out[59]:

```
0          Sweets
1    North Indian, Home Food, Thalís, Combo
2    South Indian, North Indian, Fast Food, Beverag...
3    American, Arabian, Chinese, Desserts, Fast Foo...
4          Chinese, Thai
...
113    Pan-Asian, Chinese, Asian
114    Arabian, Middle Eastern, North Indian, Grill, ...
115    North Indian, Chinese, Seafood, Biryani
116    North Indian
117    Andhra, Biryani
Name: Cuisine, Length: 117, dtype: object
```

In [60]:

```
swiggy_data['Cuisine'].unique()
```

Out[60]:

```
array(['Sweets', 'North Indian, Home Food, Thalís, Combo',
      'South Indian, North Indian, Fast Food, Beverages, Jain',
      'American, Arabian, Chinese, Desserts, Fast Food, Mughlai, North Indian',
      'Chinese, Thai', 'North Indian',
      'Fast Food, North Indian, Chinese', 'Italian',
      'South Indian, Kerala, Chinese, North Indian',
      'Pizzas, Italian, Mexican',
      'Chinese, South Indian, North Indian, Desserts, Fast Food, Kerala, Andhra, Beverages, Mughlai, Seafood',
      'Desserts', 'Chinese, Andhra, Biryani, Seafood', 'Chinese',
      'South Indian, Chinese, Desserts, North Indian',
      'Arabian, Fast Food', 'Desserts, Beverages', 'Indian, Rajasthani',
      'Desserts, Bakery', 'Chinese, Healthy Food, North Indian',
      'North Indian, Chinese, Hyderabadí', 'Fast Food',
      'Chinese, Jain, North Indian, South Indian', 'Indian',
      'North Indian, South Indian, Chinese',
      'Andhra, Biryani, Chinese, Desserts, Fast Food, Seafood, South Indian',
      'American, Fast Food',
      'Biryani, Seafood, North Indian, Chinese, Desserts, Andhra, South Indian',
      'Snacks, American', 'South Indian', 'Kerala, South Indian',
      'Mexican', 'North Indian, Chinese, Biryani',
      'Turkish, Portuguese, American', 'Biryani',
      'South Indian, Snacks, North Indian, Chinese',
      'Desserts, Fast Food, Sweets, Chaat',
      'Chinese, South Indian, Andhra, Hyderabadí', 'Pizzas, Fast Food',
      'Biryani, Mughlai, South Indian', 'Chinese, Asian',
      'North Indian, Chinese, South Indian', 'Italian, Desserts, Pizzas',
      'Biryani, Andhra, South Indian',
      'Chinese, Continental, Italian, Mediterranean, Thai, Lebanese, American, Asian, Beverages, Bakery, Biryani, Cafe, Desserts, Healthy Food, Mexican, North Indian, Salads, Pizzas',
      'Pizzas, Chinese, Pastas, Salads, American, Continental',
      'Andhra, Biryani',
      'Chinese, South Indian, North Indian, Fast Food',
      'Fast Food, Beverages',
      'Biryani, South Indian, North Indian, Fast Food, Andhra, Beverages, Mughlai, Seafood, Punjabi, Hyderabadí, Chinese',
      'Beverages, Chinese',
      'South Indian, Biryani, Kerala, North Indian, Chinese',
      'Kerala, Chinese', 'North Indian, Chinese',
      'Arabian, Beverages, Biryani, Chinese, Desserts, North Indian',
      'Biryani, Juices, Kebabs', 'Andhra, South Indian',
      'Beverages, Cafe, Snacks', 'North Indian, South Indian',
      'Turkish, Portuguese, American, Grill',
      'Home Food, Healthy Food, Indian', 'Ice Cream',
      'Chinese, Hyderabadí, Biryani, Indian, South Indian, Andhra, Tandoor',
      'Punjabi, North Indian, Chinese, Fast Food, Healthy Food, Mughlai, Desserts',
      'American',
      'Biryani, Hyderabadí, Andhra, North Indian, South Indian',
      'Fast Food, Juices, North Indian',
      'North Indian, Chaat, Snacks, Fast Food',
      'Desserts, Mughlai, Seafood', 'Ice Cream, Desserts',
      'Chinese, North Indian', 'Biryani, Kebabs',
      'Andhra, Chettinad, Chinese, Mughlai, North Indian',
      'Chettinad, South Indian',
      'Continental, Indian, Pan-Asian, Oriental',
      'North Indian, Biryani', 'Pan-Asian, Chinese, Asian',
      'Arabian, Middle Eastern, North Indian, Grill, Seafood, Kerala, Chinese',
      'North Indian, Chinese, Seafood, Biryani'], dtype=object)
```

In [61]:

```
Cuisines_category = {}
for i in swiggy_data['Cuisine'].unique():
    Cuisines_list = i.split(',')
    for Cuisine in Cuisines_list:
        Cuisine = Cuisine.lstrip(" ")
        if Cuisine in Cuisines_category:
            Cuisines_category[Cuisine] = Cuisines_category[Cuisine] + 1
        else:
            Cuisines_category[Cuisine] = 1

print(Cuisines_category)
print()
print('Total Cuisine Reocrds for the Bangalore Outlets(Swiggy)', len(Cuisines_category))
```

```
{'Sweets': 2, 'North Indian': 32, 'Home Food': 2, 'Thalís': 1, 'Combo': 1, 'South Indian': 23, 'Fast Food': 16, 'Beverage s': 9, 'Jain': 2, 'American': 8, 'Arabian': 4, 'Chinese': 35, 'Desserts': 15, 'Mughlai': 7, 'Thai': 2, 'Italian': 4, 'Keral a': 6, 'Pizzas': 5, 'Mexican': 3, 'Andhra': 12, 'Seafood': 8, 'Biryani': 18, 'Indian': 5, 'Rajasthani': 1, 'Bakery': 2, 'He althy Food': 4, 'Hyderabadí': 5, 'Snacks': 4, 'Turkish': 2, 'Portuguese': 2, 'Chaat': 2, 'Asian': 3, 'Continental': 3, 'Med iterranean': 1, 'Lebanese': 1, 'Cafe': 2, 'Salads': 2, 'Pastas': 1, 'Punjabi': 2, 'Juices': 2, 'Kebabs': 2, 'Grill': 2, 'Ic e Cream': 2, 'Tandoor': 1, 'Chettinad': 2, 'Pan-Asian': 2, 'Oriental': 1, 'Middle Eastern': 1}
```

```
Total Cuisine Reocrds for the Bangalore Outlets(Swiggy) 48
```

In [62]:

```
Cuisine = Cuisines_category.keys()
freq = Cuisines_category.values()
```

In [63]:

```
Cuisine_Analysis = pd.DataFrame()
```

In [64]:

```
Cuisine_Analysis['Cuisine'] = Cuisine  
Cuisine_Analysis['Frequency'] = freq  
Cuisine_Analysis
```

Out[64]:

	Cuisine	Frequency
0	Sweets	2
1	North Indian	32
2	Home Food	2
3	Thalis	1
4	Combo	1
5	South Indian	23
6	Fast Food	16
7	Beverages	9
8	Jain	2
9	American	8
10	Arabian	4
11	Chinese	35
12	Desserts	15
13	Mughlai	7
14	Thai	2
15	Italian	4
16	Kerala	6
17	Pizzas	5
18	Mexican	3
19	Andhra	12
20	Seafood	8
21	Biryani	18
22	Indian	5
23	Rajasthani	1
24	Bakery	2
25	Healthy Food	4
26	Hyderabadi	5
27	Snacks	4
28	Turkish	2
29	Portuguese	2
30	Chaat	2
31	Asian	3
32	Continental	3
33	Mediterranean	1
34	Lebanese	1
35	Cafe	2
36	Salads	2
37	Pastas	1
38	Punjabi	2
39	Juices	2
40	Kebabs	2
41	Grill	2
42	Ice Cream	2
43	Tandoor	1
44	Chettinad	2
45	Pan-Asian	2
46	Oriental	1
47	Middle Eastern	1

In [65]:

```
Cuisine_Analysis_Sort = Cuisine_Analysis.sort_values(by='Frequency', ascending =False).head(10)
Cuisine_Analysis_Sort
```

Out[65]:

	Cuisine	Frequency
11	Chinese	35
1	North Indian	32
5	South Indian	23
21	Biryani	18
6	Fast Food	16
12	Desserts	15
19	Andhra	12
7	Beverages	9
9	American	8
20	Seafood	8

Visualize the Top 6 Cuisines in the Bangalore City

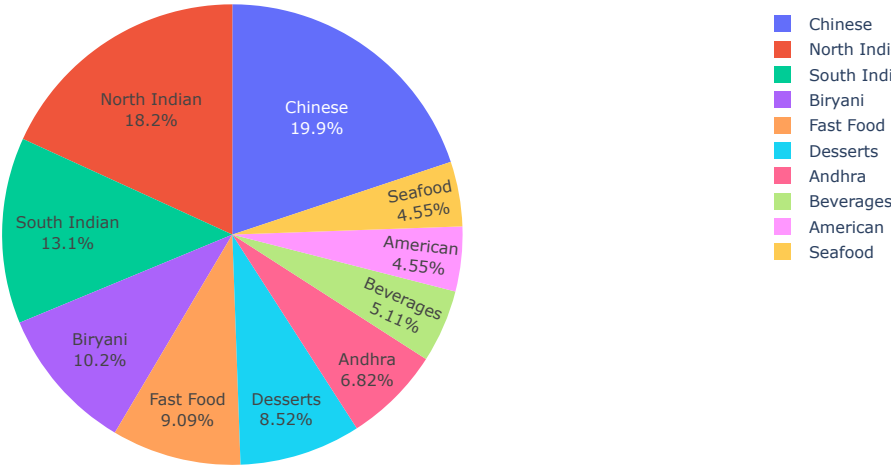
In [66]:

```
fig = px.pie(data_frame = Cuisine_Analysis_Sort,
             names = Cuisine_Analysis_Sort['Cuisine'],
             values = Cuisine_Analysis_Sort['Frequency'],
             title='Distribution of Cuisines in Bangalore City')

fig.update_traces(textposition='inside', textinfo='percent+label')

fig.show()
```

Distribution of Cuisines in Bangalore City



Insights

- From the Above Pie Chart Visualization. We can assume that, Most of Bangalore Restaurants Sells
- 1 Chinese - Overall 19.9%
 - 2 North Indian - Overall 18.2%
 - 3 South Indian - Overall 13.1%

Cuisines - Area Wise Analysis

Koramangala Area

In [67]:

```
Koramangala_Cuisine = swiggy_koramangala['Cuisine']
Koramangala_Cuisine
```

Out[67]:

```
0          Sweets
2    South Indian, North Indian, Fast Food, Beverag...
4          Chinese, Thai
5          North Indian
9    Pizzas, Italian, Mexican
...
112         Andhra, Biryani
113    Pan-Asian, Chinese, Asian
115    North Indian, Chinese, Seafood, Biryani
116         North Indian
117         Andhra, Biryani
Name: Cuisine, Length: 64, dtype: object
```

In [68]:

```
Koramangala_Cuisine = {}
for i in swiggy_koramangala['Cuisine'].unique():
    Cuisines_list = i.split(',')
    for Cuisine in Cuisines_list:
        Cuisine = Cuisine.lstrip(" ")
        if Cuisine in Koramangala_Cuisine:
            Koramangala_Cuisine[Cuisine] = Koramangala_Cuisine[Cuisine] + 1
        else:
            Koramangala_Cuisine[Cuisine] = 1

print(Koramangala_Cuisine)
print()
print('Total Cuisine Reocrds for the Koramangala Area ', len(Koramangala_Cuisine))
```

```
{'Sweets': 1, 'South Indian': 11, 'North Indian': 14, 'Fast Food': 9, 'Beverages': 5, 'Jain': 1, 'Chinese': 15, 'Thai': 2,
'Pizzas': 5, 'Italian': 4, 'Mexican': 3, 'Desserts': 8, 'Andhra': 5, 'Biryani': 10, 'Seafood': 5, 'Arabian': 1, 'Healthy Fo
od': 3, 'American': 6, 'Snacks': 3, 'Mughlai': 3, 'Asian': 3, 'Continental': 3, 'Mediterranean': 1, 'Lebanese': 1, 'Baker
y': 1, 'Cafe': 2, 'Salads': 2, 'Pastas': 1, 'Punjabi': 1, 'Hyderabadi': 1, 'Kerala': 1, 'Turkish': 1, 'Portuguese': 1, 'Gri
ll': 1, 'Home Food': 1, 'Indian': 2, 'Ice Cream': 2, 'Juices': 1, 'Chaat': 1, 'Kebabs': 1, 'Pan-Asian': 2, 'Oriental': 1}
```

Total Cuisine Reocrds for the Koramangala Area 42

In [69]:

```
Kora_cuisine = Koramangala_Cuisine.keys()
Kora_freq = Koramangala_Cuisine.values()
```

In [70]:

```
Koramangala_Cuisine_Analysis = pd.DataFrame()

Koramangala_Cuisine_Analysis['Cuisine'] = Kora_cuisine
Koramangala_Cuisine_Analysis['Frequency'] = Kora_freq
```


In [71]:

```
Koramangala_Cuisine_Analysis.sort_values(by='Frequency', ascending=False)
```

Out[71]:

	Cuisine	Frequency
6	Chinese	15
2	North Indian	14
1	South Indian	11
13	Biryani	10
3	Fast Food	9
11	Desserts	8
17	American	6
4	Beverages	5
8	Pizzas	5
12	Andhra	5
14	Seafood	5
9	Italian	4
16	Healthy Food	3
20	Asian	3
19	Mughlai	3
18	Snacks	3
21	Continental	3
10	Mexican	3
26	Salads	2
7	Thai	2
40	Pan-Asian	2
35	Indian	2
36	Ice Cream	2
25	Cafe	2
33	Grill	1
34	Home Food	1
39	Kebabs	1
37	Juices	1
38	Chaat	1
31	Turkish	1
32	Portuguese	1
0	Sweets	1
30	Kerala	1
29	Hyderabadi	1
28	Punjabi	1
27	Pastas	1
24	Bakery	1
23	Lebanese	1
22	Mediterranean	1
15	Arabian	1
5	Jain	1
41	Oriental	1

In [72]:

```
## Top 5 Cuisines in Koramangala

Koramangala_Cuisines_Analysis_sort = Koramangala_Cuisine_Analysis.sort_values(by='Frequency',ascending=False).head(5)
Koramangala_Cuisines_Analysis_sort
```

Out[72]:

	Cuisine	Frequency
6	Chinese	15
2	North Indian	14
1	South Indian	11
13	Biryani	10
3	Fast Food	9

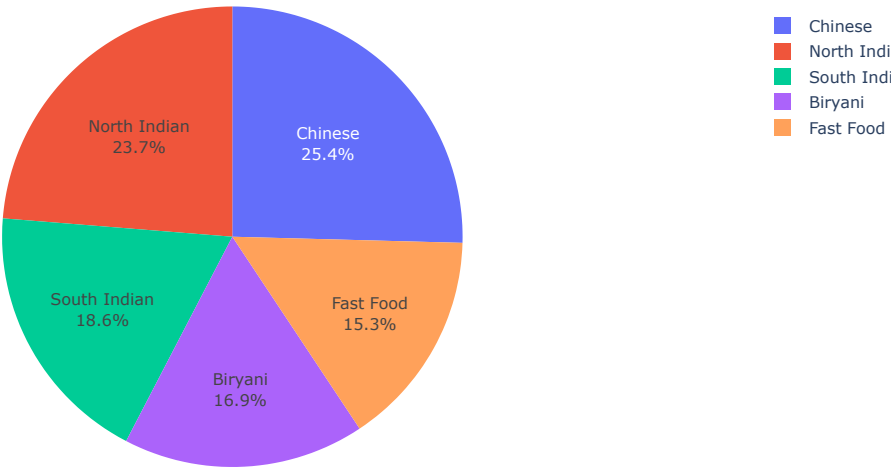
In [73]:

```
## Visualize the koramangala Cuisines

fig = px.pie(data_frame = Koramangala_Cuisines_Analysis_sort,
             names = Koramangala_Cuisines_Analysis_sort['Cuisine'],
             values = Koramangala_Cuisines_Analysis_sort['Frequency'],
             title = 'Distribution Of Cuisines in Area Koramangala')

fig.update_traces(textposition='inside', textinfo='percent + label')
fig.show()
```

Distribution Of Cuisines in Area Koramangala



Insights

- From the Above Pie Chart Visualization. We can assume that, In Koramangala Area
- Chinese - 25.4%
 - North Indian - 23.7%
 - South Indian - 18.6%
- We may assume that people are fond of the "Chinese Food" & "North Indian" cuisine in Koramangala Area

HSR Area

In [74]:

```
HSR_Cuisine = swiggy_HSR['Cuisine']
HSR_Cuisine
```

Out[74]:

```
1          North Indian, Home Food, Thalís, Combo
3    American, Arabian, Chinese, Desserts, Fast Foo...
8          South Indian, Kerala, Chinese, North Indian
19          Indian, Rajasthani
24          Chinese, Jain, North Indian, South Indian
36          North Indian, Chinese, Biryani
37          North Indian, Chinese, Biryani
39          Turkish, Portuguese, American
41          Desserts
57          South Indian
58          Andhra, Biryani
61          Desserts, Bakery
71          Biryani, Juices, Kebabs
73          North Indian
99          North Indian
101          Snacks, American
107          Chettinad, South Indian
Name: Cuisine, dtype: object
```

In [75]:

```
HSR_Cuisine = {}
for i in swiggy_HSR['Cuisine'].unique():
    Cuisines_list = i.split(',')
    for Cuisine in Cuisines_list:
        Cuisine = Cuisine.lstrip(" ")
        if Cuisine in HSR_Cuisine:
            HSR_Cuisine[Cuisine] = HSR_Cuisine[Cuisine] + 1
        else:
            HSR_Cuisine[Cuisine] = 1

print(HSR_Cuisine)
print()
print('Total Cuisine Reocrds for the HSR Area ', len(HSR_Cuisine))
```

```
{'North Indian': 6, 'Home Food': 1, 'Thalis': 1, 'Combo': 1, 'American': 3, 'Arabian': 1, 'Chinese': 4, 'Desserts': 3, 'Fast Food': 1, 'Mughlai': 1, 'South Indian': 4, 'Kerala': 1, 'Indian': 1, 'Rajasthani': 1, 'Jain': 1, 'Biryani': 3, 'Turkish': 1, 'Portuguese': 1, 'Andhra': 1, 'Bakery': 1, 'Juices': 1, 'Kebabs': 1, 'Snacks': 1, 'Chettinad': 1}
```

Total Cuisine Reocrds for the HSR Area 24

In [76]:

```
HSR_Cuisines = HSR_Cuisine.keys()
HSR_Freq = HSR_Cuisine.values()

HSR_Cuisines_Analysis = pd.DataFrame()

HSR_Cuisines_Analysis['Cuisines'] = HSR_Cuisines
HSR_Cuisines_Analysis['Frequency'] = HSR_Freq
```

In [77]:

```
HSR_Cuisines_Analysis.sort_values(by='Frequency', ascending=False)
```

Out[77]:

	Cuisines	Frequency
0	North Indian	6
6	Chinese	4
10	South Indian	4
4	American	3
7	Desserts	3
15	Biryani	3
14	Jain	1
22	Snacks	1
21	Kebabs	1
20	Juices	1
19	Bakery	1
18	Andhra	1
17	Portuguese	1
16	Turkish	1
12	Indian	1
13	Rajasthani	1
1	Home Food	1
11	Kerala	1
9	Mughlai	1
8	Fast Food	1
5	Arabian	1
3	Combo	1
2	Thalis	1
23	Chettinad	1

In [78]:

```
HSR_Cuisine_Analysis_Sort = HSR_Cuisines_Analysis.sort_values(by='Frequency', ascending=False).head(6)  
HSR_Cuisine_Analysis_Sort
```

Out[78]:

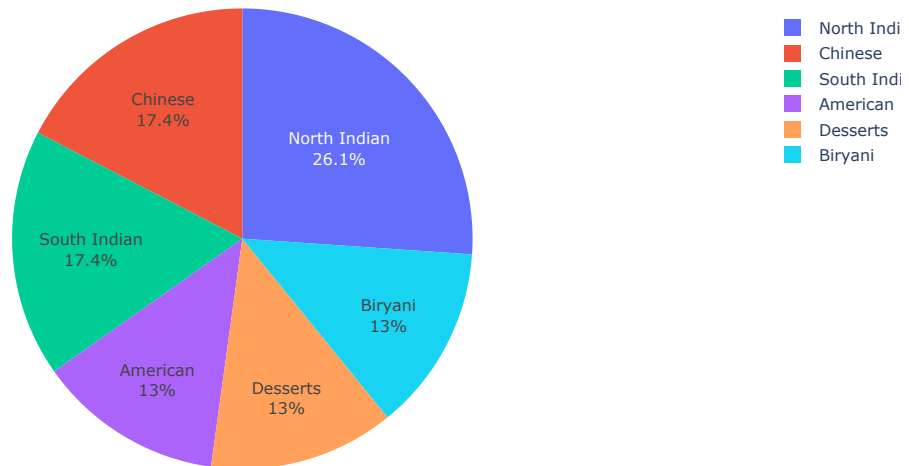
	Cuisines	Frequency
0	North Indian	6
6	Chinese	4
10	South Indian	4
4	American	3
7	Desserts	3
15	Biryani	3

In [79]:

```
fig = px.pie(data_frame=HSR_Cuisine_Analysis_Sort,
             names=HSR_Cuisine_Analysis_Sort['Cuisines'],
             values = HSR_Cuisine_Analysis_Sort['Frequency'],
             title = 'Distribution of Cuisines in Area HSR Restraunts')

fig.update_traces(textposition='inside', textinfo='percent+label')
```

Distribution of Cuisines in Area HSR Restraunts



Insights

- From the Above Pie Chart Visualization. We can assume that, In HSR Area

1 **North Indian** - 26.1%

2 **Chinese** - 17.4%

3 **South Indian** - 17.4%

- In HSR Area, we may assume have more "North Indian" People Staying there.

BTM Area

In [80]:

```
BTM_Cuisine = swiggy_BTMT['Cuisine']
BTM_Cuisine
```

Out[80]:

```
6          Fast Food, North Indian, Chinese
7          Italian
10     Chinese, South Indian, North Indian, Desserts,...
17          North Indian
20          Desserts, Bakery
22     North Indian, Chinese, Hyderabad
25          Indian
27     Andhra, Biryani, Chinese, Desserts, Fast Food,...
31          North Indian
33          Kerala, South Indian
35     North Indian, Chinese, Biryani
40          Biryani
42     South Indian, Snacks, North Indian, Chinese
44     Desserts, Fast Food, Sweets, Chaat
45     Chinese, South Indian, Andhra, Hyderabad
49     North Indian, Chinese, South Indian
51     Biryani, Andhra, South Indian
60     Fast Food, Beverages
65     Beverages, Chinese
66     North Indian
68     Kerala, Chinese
69     North Indian, Chinese
70     Arabian, Beverages, Biryani, Chinese, Desserts...
76     North Indian, South Indian
79     Andhra, Biryani, Chinese, Desserts, Fast Food,...
80     Chinese, Thai
83     Chinese, Hyderabad, Biryani, Indian, South In...
84     Punjabi, North Indian, Chinese, Fast Food, Hea...
86     North Indian
87     Biryani, Hyderabad, Andhra, North Indian, Sou...
92     Indian
104     Chinese, North Indian
106     Andhra, Chettinad, Chinese, Mughlai, North Indian
110     North Indian, Biryani
114     Arabian, Middle Eastern, North Indian, Grill, ...
Name: Cuisine, dtype: object
```

In [81]:

```
BTM_Cuisine = {}
for i in swiggy_BTMT['Cuisine'].unique():
    Cuisines_list = i.split(',')
    for Cuisine in Cuisines_list:
        Cuisine = Cuisine.lstrip(" ")
        if Cuisine in BTM_Cuisine:
            BTM_Cuisine[Cuisine] = BTM_Cuisine[Cuisine] + 1
        else:
            BTM_Cuisine[Cuisine] = 1

print(BTM_Cuisine)
print()
print('Total Cuisine Reocrds for the HSR Area ', len(BTM_Cuisine))
```

```
{'Fast Food': 6, 'North Indian': 16, 'Chinese': 18, 'Italian': 1, 'South Indian': 10, 'Desserts': 6, 'Kerala': 4, 'Andhra': 7, 'Beverages': 4, 'Mughlai': 3, 'Seafood': 3, 'Bakery': 1, 'Hyderabad': 4, 'Indian': 2, 'Biryani': 8, 'Snacks': 1, 'Sweet s': 1, 'Chaat': 1, 'Arabian': 2, 'Thai': 1, 'Tandoor': 1, 'Punjabi': 1, 'Healthy Food': 1, 'Chettinad': 1, 'Middle Easter n': 1, 'Grill': 1}
```

Total Cuisine Reocrds for the HSR Area 26

In [82]:

```
BTM_Cuisines = BTM_Cuisine.keys()
BTM_Frequency = BTM_Cuisine.values()

BTM_Cuisine_Analysis = pd.DataFrame()

BTM_Cuisine_Analysis['Cuisine'] = BTM_Cuisines
BTM_Cuisine_Analysis['Frequency'] = BTM_Frequency

BTM_Cuisine_Analysis
```

Out[82]:

	Cuisine	Frequency
0	Fast Food	6
1	North Indian	16
2	Chinese	18
3	Italian	1
4	South Indian	10
5	Desserts	6
6	Kerala	4
7	Andhra	7
8	Beverages	4
9	Mughlai	3
10	Seafood	3
11	Bakery	1
12	Hyderabadi	4
13	Indian	2
14	Biryani	8
15	Snacks	1
16	Sweets	1
17	Chaat	1
18	Arabian	2
19	Thai	1
20	Tandoor	1
21	Punjabi	1
22	Healthy Food	1
23	Chettinad	1
24	Middle Eastern	1
25	Grill	1

In [83]:

```
BTM_Cuisine_Analysis_sort = BTM_Cuisine_Analysis.sort_values(by='Frequency', ascending=False).head(5)
BTM_Cuisine_Analysis_sort
```

Out[83]:

	Cuisine	Frequency
2	Chinese	18
1	North Indian	16
4	South Indian	10
14	Biryani	8
7	Andhra	7

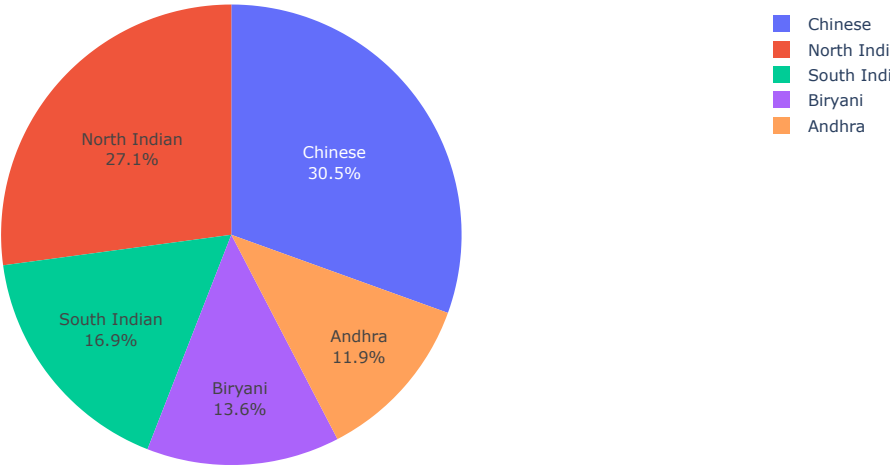
In [84]:

```
## Visualize the top 5 Restaurants in BTM

fig = px.pie(data_frame = BTM_Cuisine_Analysis_sort,
             names= BTM_Cuisine_Analysis_sort['Cuisine'],
             values = BTM_Cuisine_Analysis_sort['Frequency'],
             title='Distribution of Cuisines in Ares BTM Restaurants')

fig.update_traces(textposition='inside', textinfo='percent+label')
fig.show()
```

Distribution of Cuisines in Ares BTM Resturants



Insights

- From the Above Pie Chart Visualization. We can assume that, In BTM Area
- Chinese - 30.5%
 - North Indian - 27.1%
 - South Indian - 16.9%
- We may assume that people are fond of the "Chinese Food" cuisine in BTM Area.

Summary

- Swiggy has an average rating of 4.061, considered good by customers, and an average cost for two of 321 rupees.
- The highest rating and cost for two is 4.8 and 800 rupees, respectively.
- Restaurants in Bangalore City have ratings ranging from 4.0 to 4.8.
- The most popular food is from "Khichdi Experiment" with a rating of 4.8, and ice cream is more popular in Koramangala.
- The minimum cost for two is from "Tandoori Merchant" with an average rating.
- Based on the distribution plot, more than 50% of the restaurants have a rating greater than 4.1 with a maximum rating of 4.8. - The area-wise ratings and cost for two vary, with most restaurants in Koramangala and HSR having ratings of 4.0 or above and costs ranging from 200 to 400 rupees.
- In BTM, most restaurants have a rating of 4.0 to 4.2 and a cost for two of 200 to 350 rupees.
- The scatter plot shows that the bigger the bubble, the higher the price and vice versa. Most affordable/budgeted restaurants have excellent ratings and few expensive restaurants do not have a high rating and are expensive.
- Restaurants costing around 600 to 800 rupees for two people have ratings in between 4.0 to 4.1, which is too low compared to affordable/budgeted restaurants.
- It can be seen that the most popular cuisine types sold by Bangalore restaurants are Chinese (19.9%), North Indian (18.2%), and South Indian (13.1%).

In []: