In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px

import warnings
warnings.filterwarnings("ignore")
```

In [2]:
```
df_swiggy= pd.read_csv("Swiggy Bangalore Outlet Details.csv")
df_swiggy.head()
```

Out[2]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	₹ 150
1	Mumbai Tiffin	North Indian, Home Food, Thalis, 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

In [3]:
```
# how many features are there in data sets
df_swiggy.columns
```

Out[3]:
```
Index(['Shop_Name', 'Cuisine', 'Location', 'Rating', 'Cost_for_Two'], dtype='object')
```

In [4]:
```
# check for missing values in dataset
df_swiggy.isnull().sum()
```

Out[4]:
```
Shop_Name       0
Cuisine         0
Location        0
Rating          0
Cost_for_Two    0
dtype: int64
```

In [5]:
```
df_swiggy.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 [6]:
```
df_swiggy.describe(include="all") # element ,repeat,unqiue,how mant times
```

Out[6]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
count	118	118	118	118	118
unique	115	79	65	13	30
top	La Pino'z Pizza	North Indian	BTM, BTM	4.1	₹ 300
freq	2	12	13	30	16

In [7]:
```
df_swiggy.duplicated().sum()
```

Out[7]:
```
0
```

In [8]:
```
df_swiggy["Rating"].unique()
```

Out[8]:
```
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 [9]:
```
# Replace  "--" rating with zero
df_swiggy["Rating"]=df_swiggy["Rating"].str.replace("--","0").astype(float)
```

In [10]:
```
df_swiggy["Rating"]
```

Out[10]:
```
0      4.3
1      4.4
2      4.1
3      4.4
4      4.1
      ...
113    3.9
114    4.1
115    4.2
116    4.3
117    4.2
Name: Rating, Length: 118, dtype: float64
```

In [11]:
```
# How many unique entries for"Cost_for_Two" Future
df_swiggy["Cost_for_Two"].unique()
```

Out[11]:
```
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 [12]:
```
df_swiggy["Cost_for_Two"]=df_swiggy["Cost_for_Two"].apply(lambda x:int(x.strip("₹  ")))
```

In [13]:
```
df_swiggy["Cost_for_Two"].dtype
```

Out[13]:
```
dtype('int64')
```

In [14]:
```
df_swiggy.head()
```

Out[14]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150
1	Mumbai Tiffin	North Indian, Home Food, Thalis, 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

In [15]:
```
df_swiggy.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    int64
dtypes: float64(1), int64(1), object(3)
memory usage: 4.7+ KB
```

In [16]:
```
df_swiggy.describe()
```

Out[16]:

	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

In [17]:
```
# Distribution of Ratings":
df_valid_Ratings= df_swiggy[df_swiggy["Rating"]>0]
df_valid_Ratings
```

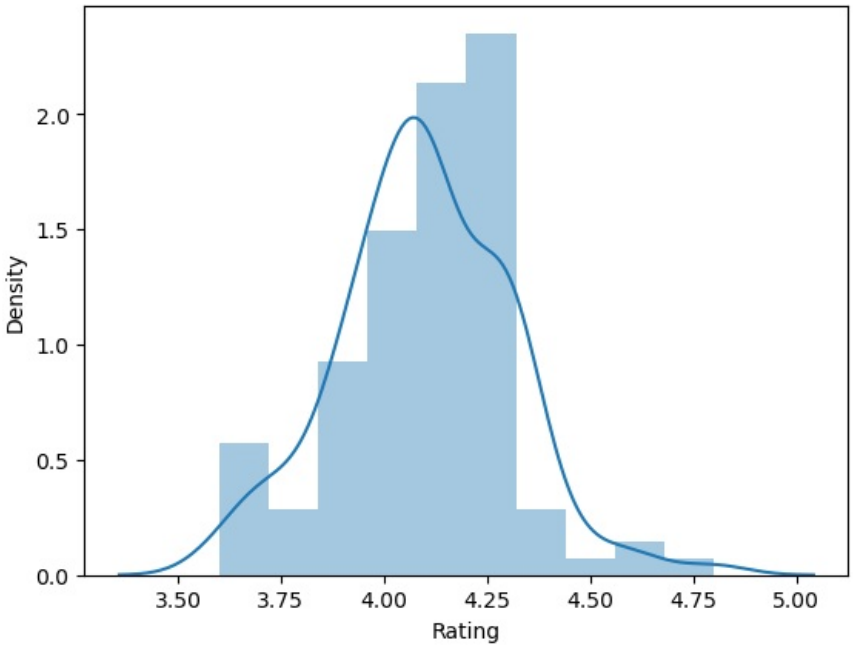
Out[17]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150
1	Mumbai Tiffin	North Indian, Home Food, Thalis, 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 [18]:
```
# Distribution of  "Ratings":
sns.distplot(df_valid_Ratings["Rating"])
```

Out[18]:
```
<Axes: xlabel='Rating', ylabel='Density'>
```



In [19]:
```
# Handling Feature --> Location
df_swiggy["Location"].unique()
```

Out[19]:
```
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',
       'Marutinagar 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 [20]:
```
# Location that contains "koramangla"
swiggy_Koramangala= df_swiggy[df_swiggy["Location"].str.contains("Koramangala")]
swiggy_Koramangala
```

Out[20]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150
2	Sri Krishna sagar	South Indian, North Indian, Fast Food, Beverag...	6th Block, Koramangala	4.1	126
4	Beijing Bites	Chinese, Thai	5th Block, Koramangala	4.1	450
5	Kitchens of Punjab	North Indian	Koramangala 4th Block, Koramangala	4.2	350
9	Yumlane Pizza	Pizzas, Italian, Mexican	9th Main road, Koramangala	3.8	150
...	...	...	...	...	...
112	Kritunga	Andhra, Biryani	5th Block, Koramangala	3.9	500
113	Wok Paper Scissors	Pan-Asian, Chinese, Asian	JNC Road, Koramangala	3.9	219
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

64 rows × 5 columns

In [21]:
```
swiggy_HSR=df_swiggy[df_swiggy["Location"].str.contains("HSR")]
swiggy_HSR
```

Out[21]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
1	Mumbai Tiffin	North Indian, Home Food, Thalis, Combo	Sector 5, HSR	4.4	400
3	Al Daaz	American, Arabian, Chinese, Desserts, Fast Foo...	HSR, HSR	4.4	400
8	Hotel Manu	South Indian, Kerala, Chinese, North Indian	HSR, HSR	4.1	350
19	Shree Khana Khazana	Indian, Rajasthani	Sector 4, HSR	4.1	350
24	New Udupi Grand	Chinese, Jain, North Indian, South Indian	HSR, HSR	4.3	150
36	Biriyani Zone	North Indian, Chinese, Biryani	HSR 1st sector, HSR	4.1	600
37	Gongura's	North Indian, Chinese, Biryani	Sector 7, HSR	3.8	300
39	Leon Grill	Turkish, Portuguese, American	3rd Sector, HSR	4.3	300
41	Cakewala	Desserts	HSR, HSR	4.3	450
57	Donne Biriyani House	South Indian	3rd sector, HSR	4.0	300
58	Nanda's	Andhra, Biryani	HSR, HSR	4.0	400
61	Cake Garden	Desserts, Bakery	HSR, HSR	3.9	250
71	Nizams Biryani	Biryani, Juices, Kebabs	Venkatapura Main Rd, Teacher's Colony, Jakkasa...	3.6	200
73	Punjabi Rasoi	North Indian	Sector 3, HSR	4.0	800
98	Mandya Gowdru Donne Biryani	Biryani	HSR, HSR	0.0	350
99	Dindigul Thalapakatti Biriyani	North Indian	HSR, HSR	4.1	650
101	Easy Bites	Snacks, American	9th Main Rd, Sector 6, HSR Layout, HSR	3.8	200
107	Junior Kuppanna	Chettinad, South Indian	Sector 6, HSR	4.0	550

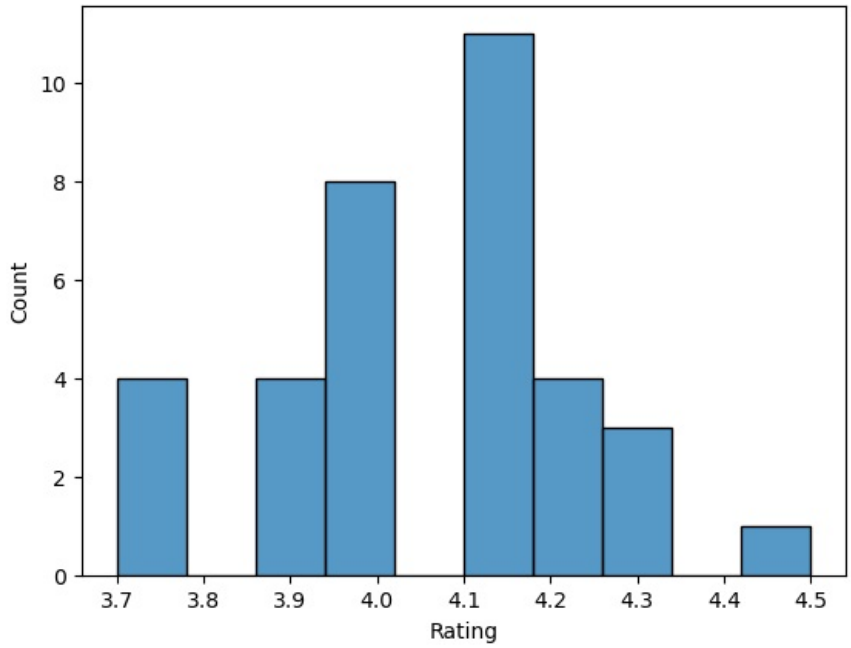
In [22]:
```
# Locations that contains "BTM"
swiggy_BTM=df_swiggy[df_swiggy["Location"].str.contains("BTM")]
swiggy_BTM
```

Out[22]:

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

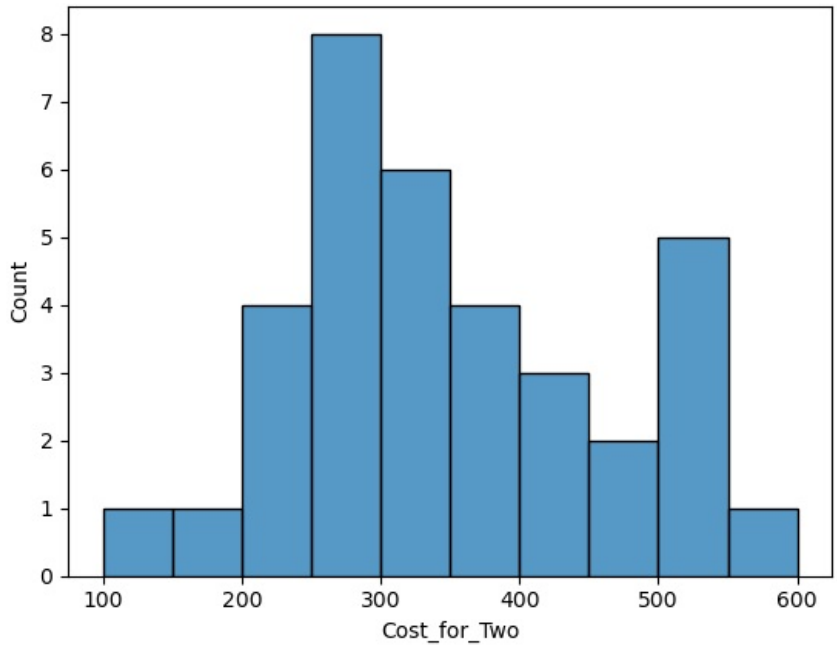
In [23]:
```
sns.histplot(swiggy_BTM["Rating"], bins=10)   # bins = classes 0,2,4,4,6,
```

Out[23]:
```
<Axes: xlabel='Rating', ylabel='Count'>
```



In [24]:
```
sns.histplot(swiggy_BTM["Cost_for_Two"],bins=10)
```

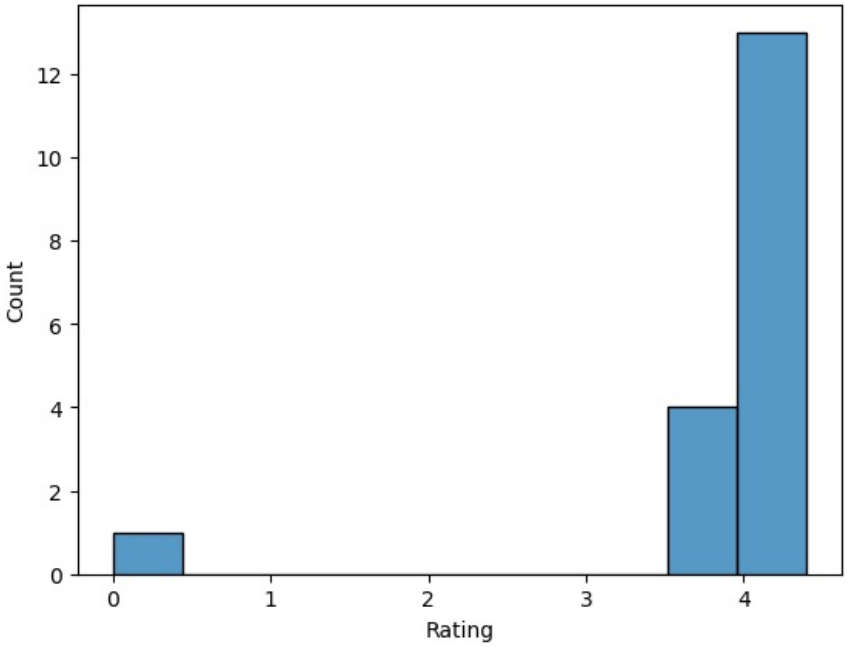
Out[24]:
```
<Axes: xlabel='Cost_for_Two', ylabel='Count'>
```



In [25]:
```
 # conclusion :
# BTM: Most has 4.0 to 4.2 Rating and Approx. cost for Two peoples lies between 200 to 350
```

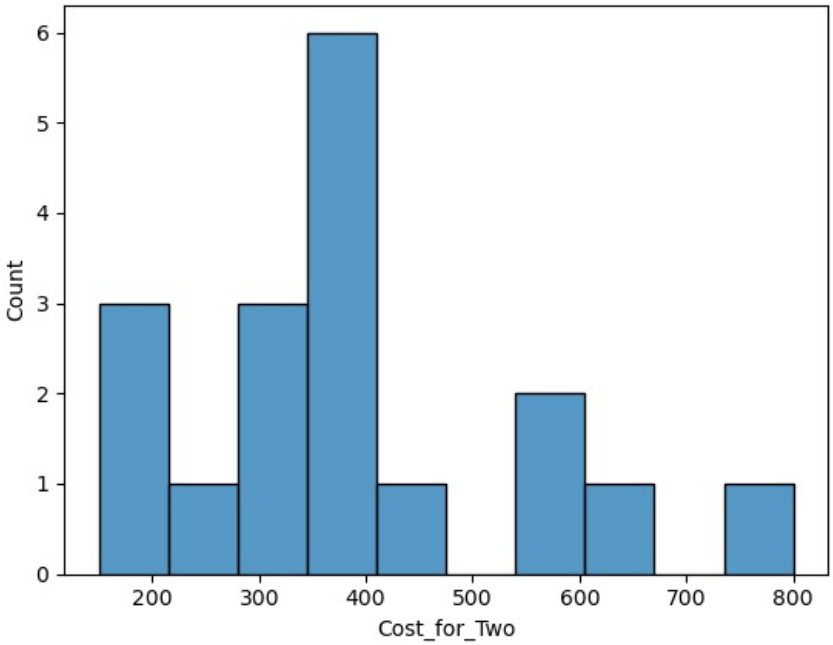
In [26]:
```
sns.histplot(swiggy_HSR["Rating"], bins=10)
```

Out[26]:
```
<Axes: xlabel='Rating', ylabel='Count'>
```



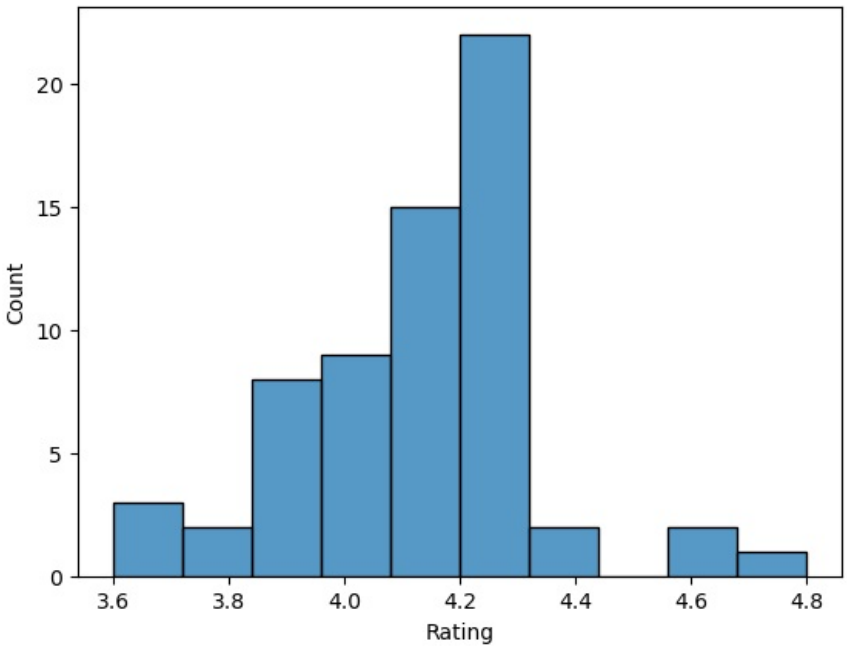
In [27]:
```
sns.histplot(swiggy_HSR["Cost_for_Two"],bins=10)
```

Out[27]:
```
<Axes: xlabel='Cost_for_Two', ylabel='Count'>
```



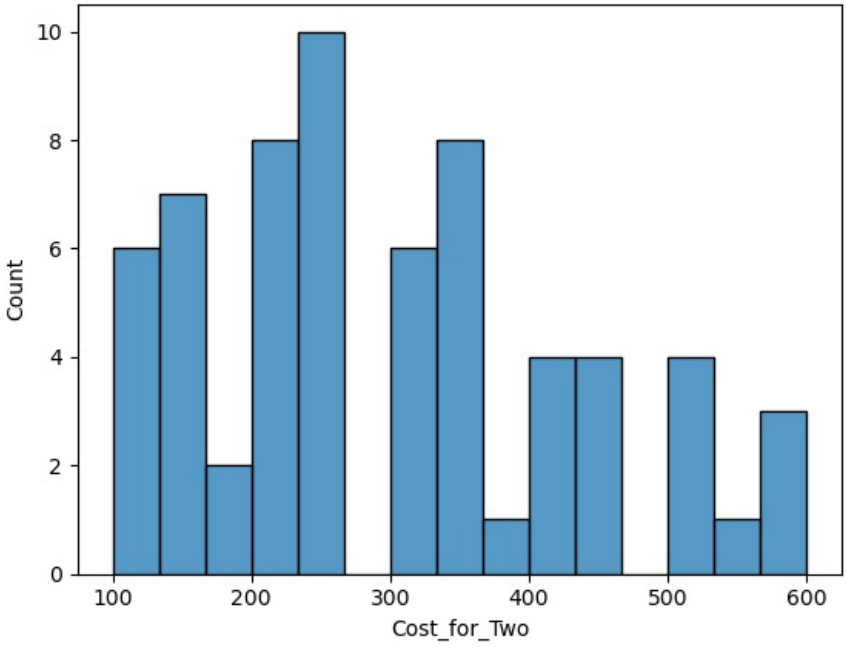
In [28]:
```
sns.histplot(swiggy_Koramangala["Rating"],bins=10)
```

Out[28]:
```
<Axes: xlabel='Rating', ylabel='Count'>
```



In [29]:
```
sns.histplot(swiggy_Koramangala["Cost_for_Two"],bins=15)
```

Out[29]:
```
<Axes: xlabel='Cost_for_Two', ylabel='Count'>
```



In [30]:
```
# conclusion:
# Koramangala: Most has 4.0 to 4.3 Rating and Approx. Cost for Two people lies between 200 to 350.(max.Cost goes
```

In [31]:
```
# Analysis "Approx Cost of 2 people " vs "Rating". Find out the relationship betwwen them.
df_Highest_Rated_Restaurants= df_swiggy[df_swiggy["Rating"]>= 4.0]
df_Highest_Rated_Restaurants
```

Out[31]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150
1	Mumbai Tiffin	North Indian, Home Food, Thalis, 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
...	...	...	...	...	...
111	Bowl 99	North Indian, South Indian	kormangala, Koramangala	4.4	200
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

92 rows × 5 columns

In [32]:
```
df_Highest_Rated_Restaurants=df_Highest_Rated_Restaurants.loc[:, ["Shop_Name","Rating","Cost_for_Two"]]
df_Highest_Rated_Restaurants
```

Out[32]:

	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 [33]:
```
df_Highest_Rated_Restaurants=df_Highest_Rated_Restaurants.groupby(["Shop_Name","Rating"])["Cost_for_Two"].agg("
df_Highest_Rated_Restaurants
```

Out[33]:
```
Shop_Name                                          Rating
99 VARIETY DOSA AND JUICE-Malli mane food court    4.1       100.0
99 VARIETY DOSA AND PAV BHAJI- Malli Mane Food Court  4.1     200.0
A2B - Adyar Ananda Bhavan                          4.2       450.0
Abhiruchi Hotel                                    4.0       250.0
Al Daaz                                            4.4       400.0
                                                             ...
Venu's Donne Biryani                               4.3       300.0
WarmOven Cake & Desserts                           4.1       200.0
World of asia                                      4.0       250.0
XO Belgian Waffle                                  4.3       250.0
calicut cafe restaurant                            4.1       280.0
Name: Cost_for_Two, Length: 91, dtype: float64
```

In [34]:
```
df_Highest_Rated_Restaurants=df_Highest_Rated_Restaurants.reset_index()     # data frame
df_Highest_Rated_Restaurants
```

Out[34]:

	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 [35]:
```
import plotly.express as px
fig=px.scatter(
    x=df_Highest_Rated_Restaurants["Cost_for_Two"],
    y=df_Highest_Rated_Restaurants["Rating"],
    color=df_Highest_Rated_Restaurants["Rating"],
    size=df_Highest_Rated_Restaurants["Cost_for_Two"],
    labels={
        "x": "Approx. Cost_for_Two",
        "y": "Rating",
        "color":"Rating_Indicator"})

fig.update_layout(
    template="plotly_dark",
    title="Analysis 'Approx cost of2 people' vs 'rating'")
fig.show()
```

In [36]:
```
##Q Analysis Affodarble\Budgeted and Higest Rated Restaurants  of Banglore:
df_Affordable_Restaurants=df_swiggy[(df_swiggy["Cost_for_Two"] <=500) & (df_swiggy["Rating"] >=4.0)]
df_Affordable_Restaurants
```

Out[36]:

	Shop_Name	Cuisine	Location	Rating	Cost_for_Two
0	Kanti Sweets	Sweets	Koramangala, Koramangala	4.3	150
1	Mumbai Tiffin	North Indian, Home Food, Thalis, 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
...	...	...	...	...	...
110	Biryani Pot	North Indian, Biryani	Madiwala Junction, BTM	4.0	500
111	Bowl 99	North Indian, South Indian	kormangala, Koramangala	4.4	200
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

82 rows × 5 columns

In [37]:
```
df_Affordable_Restaurants=df_Affordable_Restaurants.groupby(["Shop_Name", "Rating"])["Cost_for_Two"].agg("mean"
df_Affordable_Restaurants=df_Affordable_Restaurants.reset_index()
df_Affordable_Restaurants
```

Out[37]:

	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 [38]:
```
df_Affordable_Restaurants.sort_values(by=["Rating"],ascending=False, inplace=True)
df_Affordable_Restaurants
```

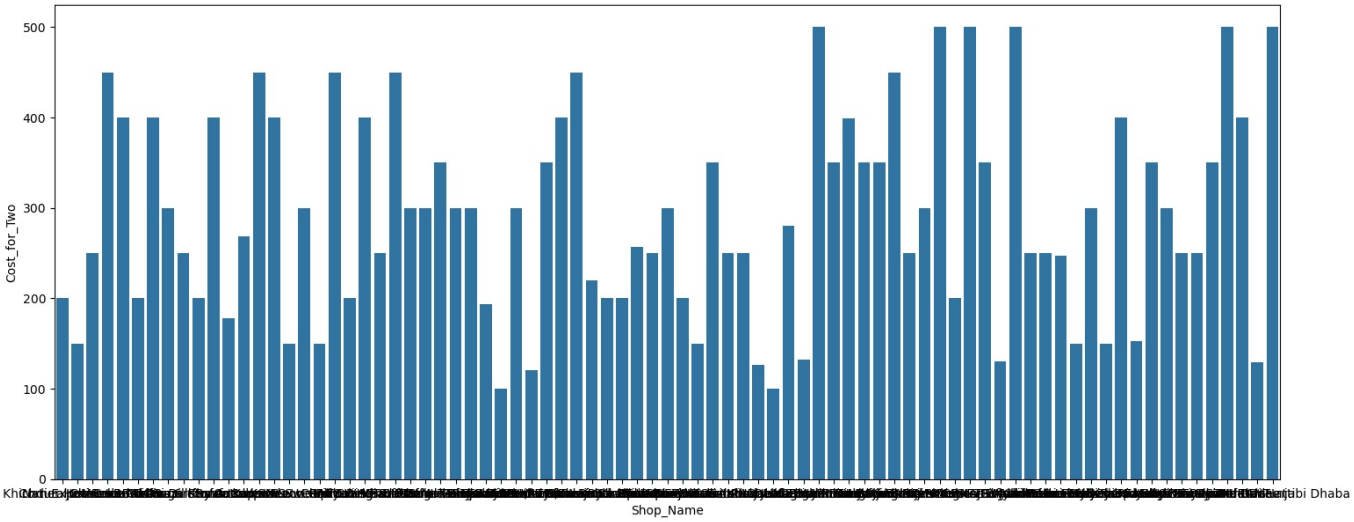
Out[38]:

	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

In [39]:
```
plt.figure(figsize=(18,7))
sns.barplot(
    x=df_Affordable_Restaurants["Shop_Name"],
    y=df_Affordable_Restaurants["Cost_for_Two"],
    data=df_Affordable_Restaurants)
```

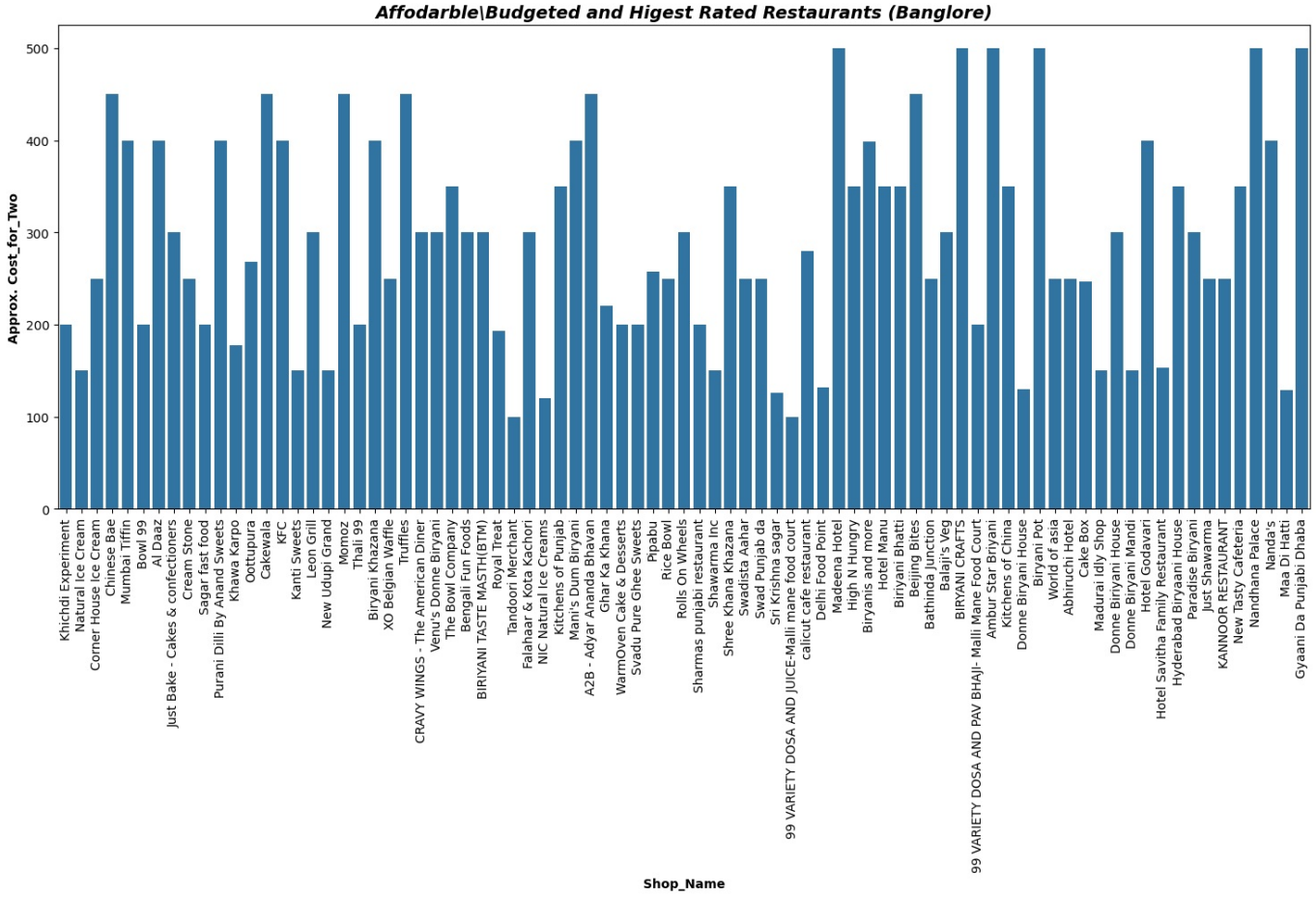
Out[39]: <Axes: xlabel='Shop_Name', ylabel='Cost_for_Two'>



In [40]:
```
plt.figure(figsize=(18,7))
sns.barplot(
    x=df_Affordable_Restaurants["Shop_Name"],
    y=df_Affordable_Restaurants["Cost_for_Two"],
    data=df_Affordable_Restaurants)

plt.title(
    "Affodarble\Budgeted and Higest Rated Restaurants (Banglore)",
    fontsize=14,
    fontweight="bold",
    fontstyle="italic"
)

plt.xlabel("Shop_Name", fontsize=10, fontweight="bold")
plt.ylabel("Approx. Cost_for_Two", fontsize=10, fontweight="bold")
plt.xticks(rotation=90)
plt.show()
```



In [41]:
```
#Q Top 15 cheapest & Highest Rated Restaurants with Approx. Cost for 2 people:
df_chepest_Restaurants=df_Affordable_Restaurants.sort_values(by="Cost_for_Two", ascending=True)
df_chepest_Restaurants
```

Out[41]:

	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 [42]:
```
fig=px.bar(
    data_frame=df_chepest_Restaurants,
    x=df_chepest_Restaurants["Shop_Name"][0:15],
    y=df_chepest_Restaurants["Cost_for_Two"][0:15],
    color=df_chepest_Restaurants["Rating"][0:15],
    labels={
        "x": "Restaurant_Name",
        "y": "Approx. Cost_for_Two (₹ )",
        "color": "Rating",})

fig.update_layout(
    template="plotly_dark",
    title="Top 15 Cheapest & Highesty Rated Restaurants with Approx. Cost for 2 People")
fig.show()
```

In [43]:
```
fig=px.scatter(
    data_frame=df_chepest_Restaurants,
    x=df_chepest_Restaurants["Shop_Name"][0:15],
    y=df_chepest_Restaurants["Cost_for_Two"][0:15],
    color=df_chepest_Restaurants["Rating"][0:15],
    labels={
        "x": "Restaurant_Name",
        "y": "Approx. Cost_for_Two (₹ )",
        "color": "Rating",})

fig.update_layout(
    template="plotly_dark",
```

```
    title="Top 15 Cheapest & Highesty Rated Restaurants with Approx. Cost for 2 People")
fig.show()
```

In [44]:
```
# Q Top 15 expensive & Highest Rated Restaurants with Approx. Cost For 2 People:
df_Expensive_Restaurants=df_Highest_Rated_Restaurants.sort_values(
    by="Cost_for_Two", ascending=False)
df_Expensive_Restaurants
```

Out[44]:

	Shop_Name	Rating	Cost_for_Two
67	Punjabi Rasoi	4.0	800.0
26	Dindigul Thalapakatti Biriyani	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 [45]:
```
fig=px.bar(
    data_frame=df_Expensive_Restaurants,
    x=df_Expensive_Restaurants["Shop_Name"][0:15],
    y=df_Expensive_Restaurants["Cost_for_Two"][0:15],
    color=df_Expensive_Restaurants["Rating"][0:15],
    labels={
        "x": "Restaurant_Name",
        "y": "Approx. Cost_for_Two (₹ )",
        "color": "Rating",})

fig.update_layout(
    template="plotly_dark",
    title="Top 15 Expensive & Highesty Rated Restaurants with Approx. Cost for 2 People")
fig.show()
```

In [46]:
```
fig=px.scatter(
    data_frame=df_Expensive_Restaurants,
    x=df_Expensive_Restaurants["Shop_Name"][0:15],
    y=df_Expensive_Restaurants["Cost_for_Two"][0:15],
    color=df_Expensive_Restaurants["Rating"][0:15],
    labels={
        "x": "Restaurant_Name",
        "y": "Approx. Cost_for_Two (₹ )",
        "color": "Rating",})

fig.update_layout(
    template="plotly_dark",
    title="Top 15 Expensive & Highesty Rated Restaurants with Approx. Cost for 2 People")
fig.show()
```

In [47]:
```
  # CUISINE ANALYSIS
df_swiggy["Cuisine"]= df_swiggy["Cuisine"].str.title()
df_swiggy["Cuisine"]
```

Out[47]:
```
0                                              Sweets
1                  North Indian, Home Food, Thalis, 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: 118, dtype: object
```

In [48]:
```
df_swiggy["Cuisine"].unique()
```

Out[48]:
```
array(['Sweets', 'North Indian, Home Food, Thalis, 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, Hyderabadi', '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, Hyderabadi', '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, Hyderabadi, 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, Hyderabadi, Biryani, Indian, South Indian, Andhra, Tandoor',
       'Punjabi, North Indian, Chinese, Fast Food, Healthy Food, Mughlai, Desserts',
       'American',
       'Biryani, Hyderabadi, 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 [49]:
```
# lstrip is removed the space

freq_dict={}
for i in df_swiggy["Cuisine"].unique():
    Cuisines_lists=i.split(",")
    for Cuisine in Cuisines_lists:
        Cuisine=Cuisine.lstrip(" ")
        if Cuisine in freq_dict:
            freq_dict[Cuisine]= freq_dict[Cuisine] + 1
        else:
```

```
            freq_dict[Cuisine]= 1

print(freq_dict)
print()
print("Total Records: \t", len(freq_dict))
```

```
{'Sweets': 2, 'North Indian': 32, 'Home Food': 2, 'Thalis': 1, 'Combo': 1, 'South Indian': 23, 'Fast Food': 16,
'Beverages': 9, 'Jain': 2, 'American': 8, 'Arabian': 4, 'Chinese': 35, 'Desserts': 15, 'Mughlai': 7, 'Thai': 2,
'Italian': 4, 'Kerala': 6, 'Pizzas': 5, 'Mexican': 3, 'Andhra': 12, 'Seafood': 8, 'Biryani': 18, 'Indian': 5, 'R
ajasthani': 1, 'Bakery': 2, 'Healthy Food': 4, 'Hyderabadi': 5, 'Snacks': 4, 'Turkish': 2, 'Portuguese': 2, 'Cha
at': 2, 'Asian': 3, 'Continental': 3, 'Mediterranean': 1, 'Lebanese': 1, 'Cafe': 2, 'Salads': 2, 'Pastas': 1, 'P
unjabi': 2, 'Juices': 2, 'Kebabs': 2, 'Grill': 2, 'Ice Cream': 2, 'Tandoor': 1, 'Chettinad': 2, 'Pan-Asian': 2,
'Oriental': 1, 'Middle Eastern': 1}

Total Records:   48
```

In [50]:

```
# Extracting   Cuisine name and there frequency
Cuisine = freq_dict.keys()
freq= freq_dict.values()

df_Cuisine_Analysis= pd.DataFrame()

# Creating a dataframe having two features-----> Cuisine and count
df_Cuisine_Analysis["Cuisine"]= Cuisine
df_Cuisine_Analysis["Count"]= freq

df_Cuisine_Analysis
```

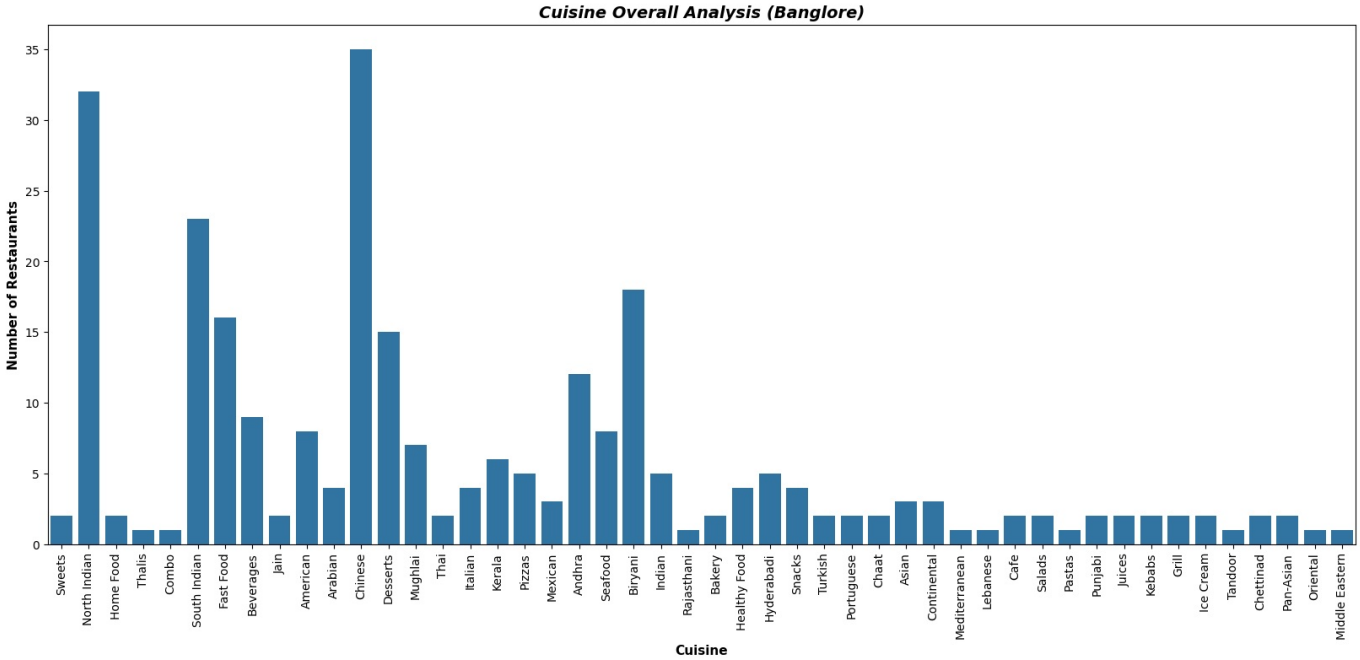
Out[50]:

	Cuisine	Count
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 [51]:
```
plt.figure(figsize=(20,8))
```

```
sns.barplot(
    x=df_Cuisine_Analysis["Cuisine"],
    y=df_Cuisine_Analysis["Count"],
    data=df_Cuisine_Analysis,)

plt.xticks(rotation=90)
plt.title(
    "Cuisine Overall Analysis (Banglore)",
    fontsize=14,
    fontweight="bold",
    fontstyle="italic",)
plt.xlabel("Cuisine", fontsize=11, fontweight="bold")
plt.ylabel("Number of Restaurants", fontsize=11, fontweight="bold")
plt.show()
```



In [52]:

```
fig=px.pie(
    data_frame=df_Cuisine_Analysis,
    names=df_Cuisine_Analysis["Cuisine"][:10],
    values=df_Cuisine_Analysis["Count"][:10],
    title="Distribution of Cuisine in Banglore Restaurants",width=700,height=700)
# fig.update_traces(textpostition"inside",textinfo="percent+label(")
fig.show()
```

In [53]:
```
freq_BTM={}
for i in swiggy_BTM["Cuisine"].unique():
    Cuisines_lists=i.split(",")
    for Cuisine in Cuisines_lists:
        Cuisine=Cuisine.lstrip(" ")
        if Cuisine in freq_BTM:
            freq_BTM[Cuisine]= freq_BTM[Cuisine] + 1
        else:
            freq_BTM[Cuisine]= 1

print(freq_BTM)
print()
print("Total Records: \t", len(freq_BTM))
```

```
{'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, 'Hyderabadi': 4, 'Indian': 2, 'Biryani':
8, 'Snacks': 1, 'Sweets': 1, 'Chaat': 1, 'Arabian': 2, 'Thai': 1, 'Tandoor': 1, 'Punjabi': 1, 'Healthy Food': 1,
'Chettinad': 1, 'Middle Eastern': 1, 'Grill': 1}

Total Records:   26
```

In [54]:
```
freq_BTM.keys()
```

Out[54]:
```
dict_keys(['Fast Food', 'North Indian', 'Chinese', 'Italian', 'South Indian', 'Desserts', 'Kerala', 'Andhra', '
Beverages', 'Mughlai', 'Seafood', 'Bakery', 'Hyderabadi', 'Indian', 'Biryani', 'Snacks', 'Sweets', 'Chaat', 'Ar
abian', 'Thai', 'Tandoor', 'Punjabi', 'Healthy Food', 'Chettinad', 'Middle Eastern', 'Grill'])
```

In [55]:
```
Cusisne=freq_BTM.keys()
freq=freq_BTM.values()

dict_BTM={"Cuisine": Cusisne, "Count": freq}

df_Cuisine_BTM=pd.DataFrame(dict_BTM)
df_Cuisine_BTM.head()
```

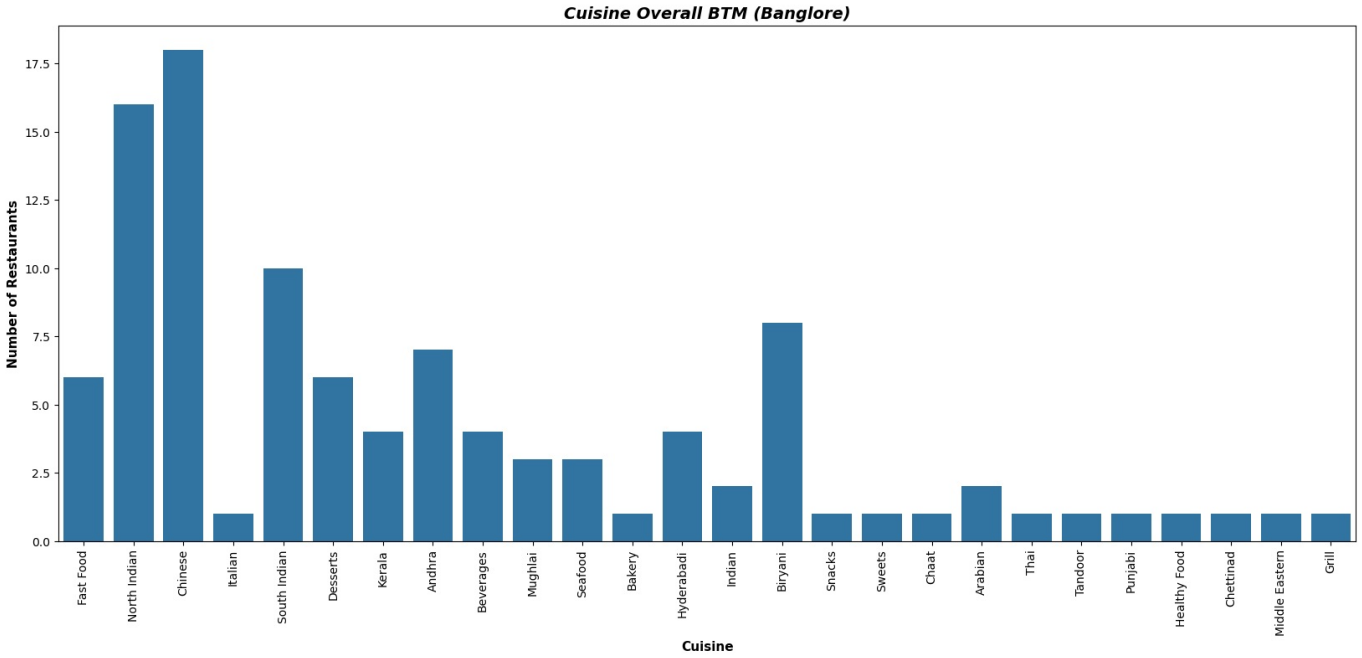
Out[55]:

	Cuisine	Count
0	Fast Food	6
1	North Indian	16
2	Chinese	18
3	Italian	1
4	South Indian	10

In [56]:
```
plt.figure(figsize=(20,8))
sns.barplot(
    x=df_Cuisine_BTM["Cuisine"],y=df_Cuisine_BTM["Count"],data=df_Cuisine_BTM)

plt.xticks(rotation=90)

plt.title(
    "Cuisine Overall BTM (Banglore)",
    fontsize=14,
    fontweight="bold",
    fontstyle="italic",)
plt.xlabel("Cuisine", fontsize=11, fontweight="bold")
plt.ylabel("Number of Restaurants", fontsize=11,fontweight="bold")
plt.show()
```



In [57]:
```
freq_HSR={}
for i in swiggy_HSR["Cuisine"].unique():
    Cuisines_lists=i.split(",")
    for Cuisine in Cuisines_lists:
        Cuisine=Cuisine.lstrip(" ")
        if Cuisine in freq_HSR:
            freq_HSR[Cuisine]= freq_HSR[Cuisine] + 1
        else:
            freq_HSR[Cuisine]= 1

print(freq_HSR)
print()
print("Total Records: \t", len(freq_HSR))
```

```
{'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': 4, 'Turkish': 1, 'Portuguese': 1, 'Andhra': 1, 'Bakery': 1, 'Juices': 1, 'Kebabs': 1, 'Snacks': 1, 'Chettinad': 1}

Total Records:   24
```

In [58]:
```
Cuisine=freq_HSR.keys()
freq=freq_HSR.values()

dict_HSR={"Cuisine": Cuisine, "Count": freq}

df_Cuisine_HSR=pd.DataFrame(dict_HSR)
df_Cuisine_HSR.head()
```

Out[58]:

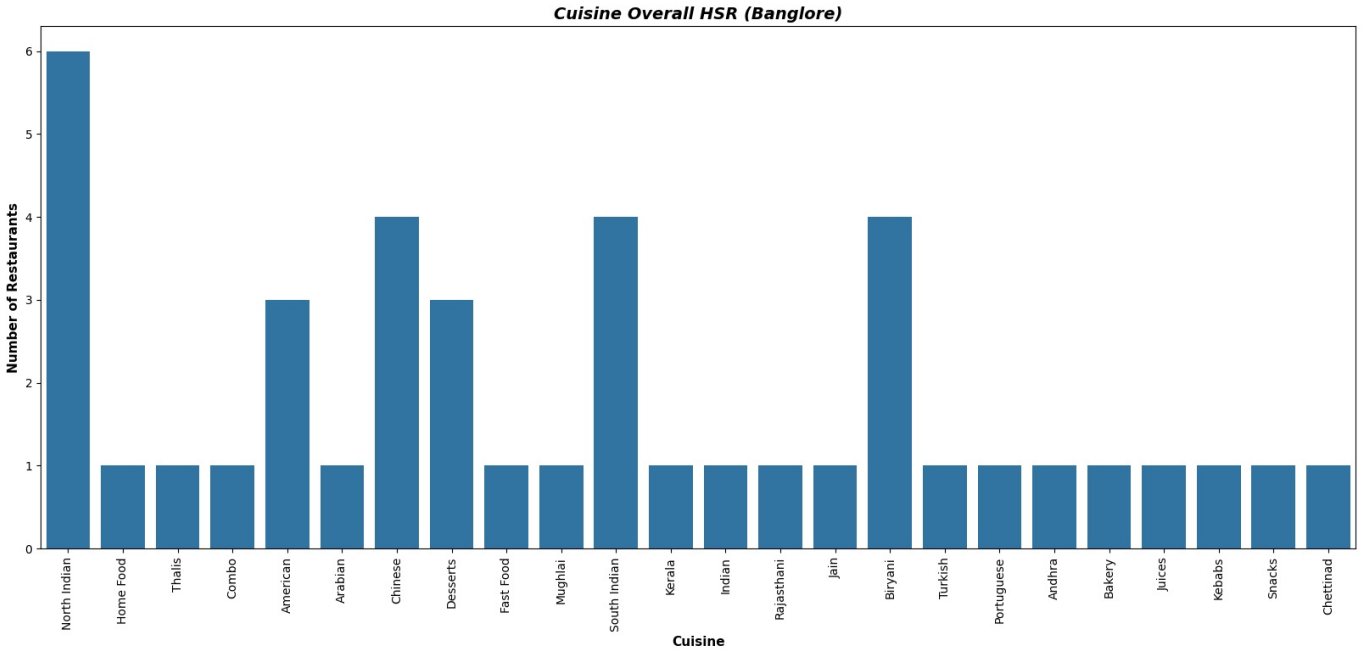
	Cuisine	Count
0	North Indian	6
1	Home Food	1
2	Thalis	1
3	Combo	1
4	American	3

In [59]:

```
plt.figure(figsize=(20,8))
sns.barplot(
    x=df_Cuisine_HSR["Cuisine"],y=df_Cuisine_HSR["Count"],data=df_Cuisine_HSR)

plt.xticks(rotation=90)

plt.title(
    "Cuisine Overall HSR (Banglore)",
    fontsize=14,
    fontweight="bold",
    fontstyle="italic",)
plt.xlabel("Cuisine", fontsize=11, fontweight="bold")
plt.ylabel("Number of Restaurants", fontsize=11,fontweight="bold")
plt.show()
```



In [60]:

```
fig=px.pie(
    data_frame=df_Cuisine_HSR,
    names=df_Cuisine_HSR["Cuisine"][:10],
    values=df_Cuisine_HSR["Count"][:10],
    title="Distribution of Cuisine in Banglore Restaurants",width=700,height=700)
# fig.update_traces(textpostition"inside",textinfo="percent+label(")
fig.show()
```

In [61]:
```
freq_koramangala={}
for i in swiggy_Koramangala["Cuisine"].unique():
    Cuisines_lists=i.split(",")
    for Cuisine in Cuisines_lists:
        Cuisine=Cuisine.lstrip(" ")
        if Cuisine in freq_koramangala:
            freq_koramangala[Cuisine]= freq_koramangala[Cuisine] + 1
        else:
            freq_koramangala[Cuisine]= 1

print(freq_koramangala)
print()
print("Total Records: \t", len(freq_koramangala))
```

```
{'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, 'Ar
abian': 1, 'Healthy Food': 3, 'American': 6, 'Snacks': 3, 'Mughlai': 3, 'Asian': 3, 'Continental': 3, 'Mediterra
nean': 1, 'Lebanese': 1, 'Bakery': 1, 'Cafe': 2, 'Salads': 2, 'Pastas': 1, 'Punjabi': 1, 'Hyderabadi': 1, 'Keral
a': 1, 'Turkish': 1, 'Portuguese': 1, 'Grill': 1, 'Home Food': 1, 'Indian': 2, 'Ice Cream': 2, 'Juices': 1, 'Cha
at': 1, 'Kebabs': 1, 'Pan-Asian': 2, 'Oriental': 1}

Total Records:   42
```

In [124…
```
Cuisine=freq_koramangala.keys()
freq=freq_koramangala.values()

dict_koramangala={"Cuisine": Cuisine, "Count": freq}

df_Cuisine_koramangala=pd.DataFrame(dict_HSR)
df_Cuisine_koramangala.head()
```

Out[124…

	Cuisine	Count
0	North Indian	6
1	Home Food	1
2	Thalis	1
3	Combo	1
4	American	3

In [ ]: