Swiggy EDA And Visualisation :

Importing Libraries :

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [2]:
```
df = pd.read_csv("swiggy.csv")
```

In [3]:
```
df.head()
```

Out[3]:

	id	name	city	rating	rating_count	cost	cuisine	lic_no	link	address	menu
0	567335	AB FOODS POINT	Abohar	–	Too Few Ratings	₹ 200	Beverages,Pizzas	21122652000138	https://www.swiggy.com/restaurants/ab-foods-po...	AB FOODS POINT,NEAR RISHI NARANG DENTAL CLINI...	Menu/567335.json
1	531342	Janta Sweet House	Abohar	4.4	50+ ratings	₹ 100	Sweets,Bakery	12117320100132	https://www.swiggy.com/restaurants/janta-sweet...	Janta Sweet House, Bazar No 9, Circular Road	Menu/531342.json
2	156059	Doha coffee Desi	Abohar	3.8	100+ ratings	₹ 100	Beverages	21121652000190	https://www.swiggy.com/restaurants/doha-coffe-...	doha coffee desi, sahitya sadan road city	Menu/156059.json
3	187612	Singh Hut	Abohar	3.7	20+ ratings	₹ 250	Fast Food,Indian	22118652000167	https://www.swiggy.com/restaurants/singh-hut-n...	Singh Hut, CIRCULAR ROAD NEAR NEHRU PARK ABOHAR	Menu/187612.json
4	545830	GRILL MASTERS	Abohar	–	Too Few Ratings	₹ 250	Italian-American,Fast Food	12122220100053	https://www.swiggy.com/restaurants/grill-maste...	GRILL MASTERS,,AGR Hangha, Abohar - Hanumanga...	Menu/545830.json

1. Find the top 10 most common restaurant names in India :

In [4]:
```
data = df.groupby('name').size().sort_values(ascending = False).head(10)
```

In [5]:
```
print(data)
```

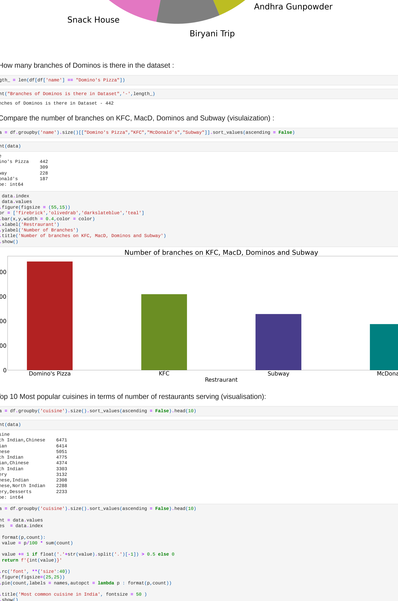
```
name
Domino's Pizza                    442
Pizza Hut                         319
KFC                               309
Kwality Walls Frozen Dessert and Ice Cream Shop   308
Baskin Robbins                    274
Subway                            228
Faasos - Wraps & Rolls            197
The Biryani Life                  195
Lucknow Meals and Thalis          189
The Good Bowl                     184
dtype: int64
```

Pie Chart Visualizations for Top 10 most Common Restaurant names in India

In [6]:
```
percentage = data.values
names = data.index

plt.rc('font', **{'size':40})
plt.figure(figsize=(25,25))
plt.pie(percentage,labels = names,autopct = '%1.2f%%')

plt.title('Most common restaurant name in India', fontsize = 50 )
plt.show()
```



2. Find the top 10 most common restaurant name in Bangalore:

In [7]:
```
cities = [ i for i in df['city'].unique() if 'Bangalore' in i ]

data  = df[('name','city')]
data['include'] = data['city'].apply( lambda city : 1 if city in cities else 0)

data = data[data['include'] == 1]

data = data.groupby('name').size().sort_values(ascending = False).head(10)
```

```
C:\Users\NANDHINI\AppData\Local\Temp\ipykernel_1977\1369954962.py:4: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  data['include'] = data['city'].apply( lambda city : 1 if city in cities else 0)
```

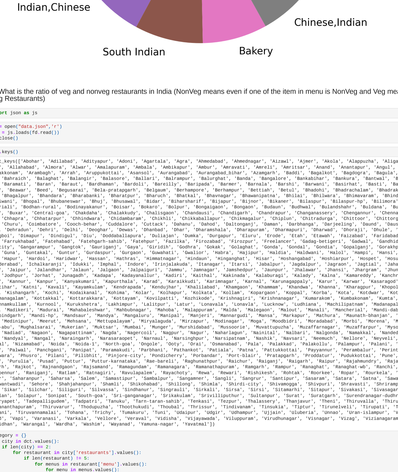
In [8]:
```
print(data)
```

```
name
Domino's Pizza                    30
Kwality Walls Frozen Dessert and Ice Cream Shop   28
KFC                               26
Kanti Sweets                      26
Baskin Robbins                    25
Pastas By Pizza Hut               25
Snack House                       25
Biryani Trip                      24
Andhra Gunpowder                  24
Momo Monk                         24
dtype: int64
```

Pie Chart Visualizations for Top 10 most Common Restaurant names in Bangalore :

In [9]:
```
count = data.values
names = data.index
plt.rc('font', **{'size':40})
plt.figure(figsize=(25,25))
plt.pie(count,labels = names,autopct = '%1.2f%%')

plt.title('Most common restaurant name in Bangalore', fontsize = 50 )
plt.show()
```



3. How many branches of Dominos is there in the dataset :

In [10]:
```
length_ = len(df[df['name' == 'Domino's Pizza'])

print("Branches of Dominos is there in Dataset",".",length_)
```

```
Branches of Dominos is there in Dataset . 442
```

4. Compare the number of branches on KFC, MacD, Dominos and Subway (visulaization) :

In [11]:
```
data = df.groupby('name').size()[["Domino's Pizza","KFC","McDonald's","Subway"]].sort_values(ascending = False)
```

In [12]:
```
print(data)
```

```
name
Domino's Pizza    442
KFC               309
Subway            228
McDonald's        187
dtype: int64
```

In [13]:
```
x = data.index
y = data.values
plt.figure(figsize = (55,15))
color = ['firebrick','olivedrab','darkslateblue','teal']
plt.bar(x,y,width = 0.4,color = color)
plt.xlabel("Restrurant")
plt.ylabel("Number of Branches")
plt.title('Number of branches on KFC, MacD, Dominos and Subway')
plt.show()
```


5.Top 10 most popular cuisines in terms of number of restaurants serving (visualisation):

In [15]:
```
data = df.groupby('cuisine').size().sort_values(ascending = False).head(10)
```

In [16]:
```
print(data)
```

```
cuisine
North Indian,Chinese    6471
Indian                  6414
Chinese                 5051
North Indian            4775
Indian,Chinese          4374
South Indian            3303
Bakery                  3132
Chinese,Indian          2308
Chinese,North Indian    2288
Bakery,Desserts         2233
dtype: int64
```

In [17]:
```
print(data[data[data.values >= 100].index].sum())
```

```
cuisine
North Indian,Chinese    6471
Indian                  6414
Chinese                 5051
North Indian            4775
Indian,Chinese          4374
South Indian            3303
Bakery                  3132
Chinese,Indian          2308
Chinese,North Indian    2288
Bakery,Desserts         2233
dtype: int64
```

In [18]:
```
count = data.values
names = data.index

def format(p,count):
    value = p/100 * sum(count)

    value += 1 if float(('%+r'%(value).split('.')[-1]) > 0.5 else 0
    return f"{int(value)}"

plt.rc('font', **{'size':40})
plt.figure(figsize=(25,25))
plt.pie(count,labels = names,autopct = lambda p : format(p,count))

plt.title('Most common cuisine in India', fontsize = 50 )
plt.show()
```


6. What is the ratio of veg and nonveg restaurants in India (NonVeg means even if one of the item in menu is NonVeg and Veg means pure Veg Restaurants)

In [19]:
```
import ison as js

f0 = open("menu/0.json","r")
dct = js.loads(f0.read())
f0.close()
```

In [20]:
```
dct.keys()
```

Out[20]:
```
dict_keys(['Abohar', 'Adilabad', 'Adityapur', 'Adoni', 'Agartala', 'Agra', 'Ahmedabad', 'Ahmednagar', 'Aizawl', 'Ajmer', 'Akola', 'Alappuzha', 'Aligarh', 'Alipurd
uar', 'Allahabad', 'Alpharetta', 'Alwar', 'Amalapuram', 'Ambala', 'Ambikapur', 'Ambur', 'Amravati', 'Amreli', 'Amritsar', 'Anand', 'Anantapur', 'Angul', 'Ankleshwar',
'Arakkonam', 'Arambagh', 'Arrah', 'Aruppukottai', 'Asansol', 'Aurangabad', 'Aurangabad,Sikhar', 'Azamgarh', 'Baddi', 'Bagalkot', 'Bagdogra', 'Bagula', 'Bahadurgar
h', 'Bahraich', 'Balaghat', 'Balangir', 'Balasore', 'Ballari', 'Balrampur', 'Baluurghat', 'Banda', 'Bangalore', 'Bankashiya', 'Bankura', 'Banswara', 'Bapatla(Andra
s)', 'Baramati', 'Baraut', 'Bardhaman', 'Bareilly', 'Barigada', 'Barmer', 'Barnala', 'Barshi', 'Barwani', 'Basirhat', 'Basti', 'Batala', 'Bathi
nda', 'Beawar', 'Begusarai', 'Belagavi', 'Belgaum', 'Bellary', 'Bellevue', 'Berhampur', 'Bettiah', 'Bhadrak', 'Bhagalpur', 'Bhagat Ki Kothi', 'Bhag
a', 'Bhavnagar', 'Bhandara', 'Bhandarkavathe', 'Bharuch', 'Bhatkal', 'Bhavnagar', 'Bhawanipatna', 'Bhilai', 'Bhilwara', 'Bhimavaram', 'Bhind', 'Bhiwadi
', 'Bhiwani', 'Bhopal', 'Bhubaneswar', 'Bhuj', 'Bhuswal', 'Bidar', 'Biharsharif', 'Bijapur', 'Bijnor', 'Bikaner', 'Bilaspur', 'Bilaspur-hp', 'Bilimora', 'Biswanath-
chariali', 'Bodhan-rural', 'Bodinayakanur', 'Boisar', 'Bokaro', 'Bolpur', 'Bongaigaon', 'Bongaon', 'Budaun', 'Budhwal', 'Bulandshahr', 'Buldana', 'Bundi', 'Burhan
pur', 'Buxar', 'Central-goa', 'Chadaba', 'Chalakkudy', 'Challisgaon', 'Chandauli', 'Chandigarh', 'Chandrapur', 'Changanassery', 'Chengannur', 'Chennai', 'Cherthal
a', 'Chhapra', 'Chhatarpur', 'Chhindwara', 'Chikkamagaluru', 'Chikkanayakanahalli', 'Chikkodi', 'Chinsurah', 'Chirala', 'Chirmiri', 'Chitradurga', 'Chitra
a', 'Chura', 'Coimbatore', 'Cooch-behar', 'Cuddalore', 'Cuttack', 'Dabaru', 'Dabhoi', 'Dahiyagaon', 'Damoh', 'Darbhanga', 'Darjeeling', 'Daund', 'Dausa', 'Davanage
re', 'Dehradun', 'Dehri', 'Delhi', 'Deoghar', 'Dewas', 'Dhanbad', 'Dhar', 'Dharamshala', 'Dharapuram', 'Dharmapuri', 'Dharwad', 'Dhorajii', 'Dhule', 'Dibrugarh',
'Digboi', 'Dimapur', 'Dindigul', 'Diu', 'Doddaballapura', 'Dollajan', 'Dumka', 'Durgapur', 'Ebiru', 'Erode', 'Etah', 'Etawah', 'Faizabad', 'Faridabad', 'Faridku
t', 'Farrukhabad', 'Fatehabad', 'Fatehgarh-sahib', 'Fatehpur', 'Fazilka', 'Firozabad', 'Firozpur', 'Freelancer', 'Gadag-betigeri', 'Gadwal', 'Gandhidham', 'Gangap
ur', 'Gangtok', 'Gangvati', 'Garhchiroli', 'Gariaband', 'Gaya', 'Gebeta', 'Gelephu', 'Gharaunda', 'Gharghoda', 'Ghatkopar', 'Ghatsila', 'Ghazipur', 'Gh
ati', 'Gina', 'Gondiatalai', 'Gonda', 'Gorbandar', 'Gorgaon', 'Gowahati', 'Gwalior', 'Habra', 'Hajipur', 'Halda', 'Haldwani', 'Halol', 'Hamirpur', 'Hansi', 'Hanumangar
h', 'Hapur', 'Hardoi', 'Haridwar', 'Hassan', 'Hathras', 'Himmatnagar', 'Hindaun', 'Hinganghat', 'Hisar', 'Hoshangabad', 'Hoshiarpur', 'Hospet', 'Hosur', 'Hubli',
'Hyderabad', 'Ichalkaranji', 'Ibrahim', 'Imphal', 'Indore', 'Irinjalakuda', 'Itanagar', 'Itarsi', 'Jabalpur', 'Jagdalpur', 'Jagraon', 'Jagtial', 'Jahanabad', 'Jaig
aon', 'Jaipur', 'Jalandhar', 'Jalaun', 'Jalgaon', 'Jalpaiguri', 'Jammu', 'Jamnagar', 'Jamshedpur', 'Jaunpur', 'Jhalawar', 'Jhansi', 'Jhargram', 'Jhunjhunu', 'Jin
d', 'Jodhpur', 'Jorhat', 'Jungadhar', 'Kadapa', 'Kadayanallur', 'Kadiri', 'Kaithal', 'Kakinada', 'Kalabaragi', 'Kalady', 'Kalka', 'Kamareddy', 'Kanchipuram', 'Kann
auj', 'Kannur', 'Kanpur', 'Kanyakumari', 'Kapurthala', 'Karad', 'Karaikkudi', 'Karimnagar', 'Karnal', 'Karungappaliy', 'Karur', 'Kasargod', 'Kashipur',
'Kasia', 'Katihar', 'Katni', 'Kattakkada', 'Kattakkadu', 'Kattakkalai', 'Kattakkalai,Kattakkalai', 'Kattakkalai,Kattakkalai,Kattakkalai', 'Kattakkalai,Kattakkal
ai', 'Kishanganj', 'Kochi', 'Kodakkanad', 'Kodiaa', 'Kolar', 'Kolhapur', 'Kolkata', 'Kollam', 'Kopargaon', 'Koppal', 'Korba', 'Kota', 'Kotabagi', 'Kotagudem', 'Ko
thamangalam', 'Kottakkal', 'Kottarakara', 'Kottayam', 'Kovilpatti', 'Kozhikode', 'Krishnagiri', 'Krishnanagar', 'Kumarakham', 'Kumbakonam', 'Kumta', 'Kundapura',
'Kunnamkulam', 'Kurnool', 'Kurukshetra', 'Lakhimpur', 'Lalitpur', 'Latur', 'Lonavala', 'Loniyala', 'Lucknow', 'Ludhiana', 'Machilipatnam', 'Madanapalle', 'Madhuba
ni', 'Maddikera', 'Madurai', 'Mahabaleshwar', 'Mahbubnagar', 'Mahoba', 'Malappuram', 'Malda', 'Malegaon', 'Malout', 'Mandali', 'Mancherial', 'Mandi-dabwali', 'Mandi
gobindgarh', 'Mandya', 'Manglaur', 'Mangalore', 'Manjeri', 'Mansa', 'Mapusa', 'Marakkanam', 'Marakkara', 'Marigaon', 'Marmagao', 'Marthandam', 'Mathura',
'Medziphema', 'Meerut', 'Mehsana', 'Metupalayam', 'Mirzalgauda', 'Mirzapur', 'Modinagar', 'Moga', 'Moodbidri', 'Moradabad', 'Morbi', 'Morena', 'Motihari', 'Mo
unt-abu', 'Mughalsarai', 'Mukeran', 'Muktsar', 'Mumbai', 'Munger', 'Murshidabad', 'Mussoorie', 'Muvattupuzha', 'Muzaffarnagar', 'Muzaffarpur', 'Mysore', 'Nabadwi
p', 'Nadiad', 'Nagaon', 'Nagapattinam', 'Nagda', 'Nagercoil', 'Nagpur', 'Nahar\xpanar', 'Naintal', 'Nalbari', 'Nalgonda', 'Namakkal', 'Nanded', 'Nandurba
r', 'Nandyal', 'Nangal', 'Narainganj', 'Narasaraopet', 'Narnaul', 'Narsinghpur', 'Narsipatnam', 'Nashik', 'Navsari', 'Neemuch', 'Nellore', 'Neyveli', 'Nizami', 'N
ok', 'Nowgong', 'Nuzvid', 'Nyala', 'Nyala,Nyala', 'Nyala,Nyala,Nyala', 'Nyala,Nyala,Nyala,Nyala', 'Nyala,Nyala,Nyala,Nyala,Nyala', 'Nyala,Nyala,Nyala,Nyala,Nyala,
ali', 'Palwal', 'Panchgani', 'Panipat', 'Paramakudi', 'Parbhani', 'Patankot', 'Patiala', 'Patna', 'Patlakothi', 'Payyanur', 'Perambalur', 'Perinthalmanna', 'P
hagwara', 'Phusro', 'Pilani', 'Pilibhit', 'Pipiara-city', 'Pondicherry', 'Porbandar', 'Port-blair', 'Pratapgarh', 'Proddatur', 'Pudukkottai', 'Pune', 'Puri', 'Pur
nea', 'Purulia', 'Pusad', 'Putur', 'Putur-karnataka', 'Rae-bareli', 'Raghunathpur', 'Raichur', 'Raigarh', 'Raipur', 'Rajahmundry', 'Rajapalayam', 'Ra
jgarh', 'Rajkot', 'Rajnandgaon', 'Rajsamand', 'Ramagundam', 'Ramanagara', 'Ramanathapuram', 'Ramgarh', 'Rampur', 'Ranaghat', 'Ranaghat-wb', 'Ranchi', 'Rangpo', 'R
anipet', 'Ratlam', 'Ratnagiri', 'Rau', 'Rayagada', 'Rayalaseema', 'Rayalaseema,Rayalaseema', 'Rayalaseema,Rayalaseema,Rayalaseema', 'Rayalaseema,Rayalaseema,Rayala
seema,Rayalaseema', 'Rewa', 'Rewari', 'Rishikesh', 'Rohtak', 'Rourkela', 'Sagar', 'Saharanpur', 'Saharsa', 'Salem', 'Samastipur', 'Sambalpur', 'Sangamner', 'Sangli', 'Sangrur', 'Santipur', 'Sarana', 'Satara', 'Satna', 'Sawai-madhopur', 'S
awantwadi', 'Sehore', 'Shahjahanpur', 'Shamli', 'Shikohabad', 'Shillong', 'Shimla', 'Shired-city', 'Shivamogga', 'Shivpuri', 'Shravasti', 'Shrirampur', 'Siddipe
t', 'Sikar', 'Silchar', 'Siliguri', 'Silvassa', 'Sindhanur', 'Singrauli', 'Sirkali', 'Sirsa', 'Sirsi', 'Sitamarhi', 'Sitapur', 'Sivakasi', 'Sivasagar', 'Siuan',
'Solan', 'Solapur', 'Sonipat', 'South-goa', 'Sri-ganganagar', 'Srikakulam', 'Srivilliputhur', 'Sultanpur', 'Surat', 'Suratgarh', 'Surendranagar-dudhrej', 'Suri',
'Surjapur', 'Surmandongi', 'Surmandongi,Surmandongi', 'Surmandongi,Surmandongi,Surmandongi', 'Surmandongi,Surmandongi,Surmandongi,Surmandongi', 'Tadepalligudem',
'Tadepatigudem', 'Thiruvarur', 'Thodupuzha', 'Thodupuzha', 'Thodupuzha,Thodupuzha', 'Tirpur', 'Tiruchirapalli', 'Tiruchirapalli', 'Tirpur', 'Tiruchirapalli', 'Tirupur', 'Tir
uttani', 'Tiruvannamalai', 'Tohana', 'Trichy', 'Tumkuru', 'Tuni', 'Udaipur', 'Udgir', 'Udhampur', 'Ujjain', 'Uluberia', 'Unnao', 'Uran', 'Uttarpara', 'Vadodara', 'Va
lsad', 'Vapi', 'Varanasi', 'Varkala', 'Vellore', 'Veraval', 'Vidisha', 'Vijayawada', 'Vizapuram', 'Virudhunagar', 'Visnagar', 'Vizag', 'Vizianagaram', 'Vyara',
'WaidPan', 'Warangal', 'Wardha', 'Washim', 'Wayanad', 'Yamuna-nagar', 'Yevatmal'])
```

In [21]:
```
category = {}
for i in dct.values():
    if 'menu' in i:
        for restaurant in i['restaurants'].values():
            if restaurant['menu' ] == 5:
                for menus in restaurant['menu'].values():
                    if menus['veg_or_non_veg'] == 1:
                        val = menus['veg_or_non_veg']
                        category[val] = category.get(val,0) + 1
    else:
        for subcity in i['subcities'].values():
            for restaurant in subcity['restaurants'].values():
                if len(restaurant) == 5:
                    for menus in restaurant['menu'].values():
                        if menus['veg_or_non_veg'] == 1:
                            val = menus['veg_or_non_veg']
                            category[val] = category.get(val,0) + 1

answer = int(category['Veg'] / category['Non-veg'])

print(answer,'is the ratio of veg and nonveg restaurants in India (NonVeg) means even if one of the item in menu is NonVeg and Veg means pure (Veg Restaurants)')
```

```
2 is the ratio of veg and nonveg restaurants in India (NonVeg) means even if one of the item in menu is NonVeg and Veg means pure (Veg Restaurants)
```