```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import datetime
import calendar
```

```
#uploading data
data = pd.read_csv('food_delivery.csv')
data.head(10)
#data.shape
```

	user_code	date	company	restaurant	price_paid	delivery_charge	packing_charg
0	227	01-01-2019	alpha	Burger Spot	125.0	0.0	10.
1	297	01-01-2019	alpha	Cafe Coffee Day	192.0	0.0	10.
2	297	01-01-2019	alpha	Malini's Health Kitchen	65.0	0.0	0.
3	394	01-01-2019	alpha	The Bowl Company	292.0	0.0	19.
4	420	01-01-2019	alpha	Podi Idly	101.0	0.0	10.

```
#date to day
data['date'] = pd.to_datetime(data['date'], errors='coerce')
data['day'] = data['date'].dt.weekday_name
data.head()
```

	user_code	date	company	restaurant	price_paid	delivery_charge	packing_charg
0	227	2019-01-01	alpha	Burger Spot	125.0	0.0	10
1	297	2019-01-01	alpha	Cafe Coffee Day	192.0	0.0	10
2	297	2019-01-01	alpha	Malini's Health Kitchen	65.0	0.0	0

```
#testing null values
data.isnull().sum()
```

```
user_code          0
date               0
company            0
restaurant         0
price_paid         0
delivery_charge    0
packing_charge     0
district           0
```

```
#colums name
data.columns
```

```
Index(['user_code', 'date', 'company', 'restaurant', 'price_paid',
       'delivery_charge', 'packing_charge', 'district', 'state', 'zone',
       'day'],
      dtype='object')
```

```
#check names of totols companies
data['company'].unique()
```

```
array(['alpha', 'beta', 'gamma'], dtype=object)
```

```
#describe delivery charge
data['delivery_charge'].describe()
```

```
count    34576.000000
mean         4.229096
std          9.049135
min          0.000000
25%          0.000000
50%          0.000000
75%          0.000000
max        100.000000
Name: delivery_charge, dtype: float64
```

```
#totol number of restorents
data['restaurant'].unique().shape
```

```
(11150,)
```

```
#discribe all data
data.describe()
```

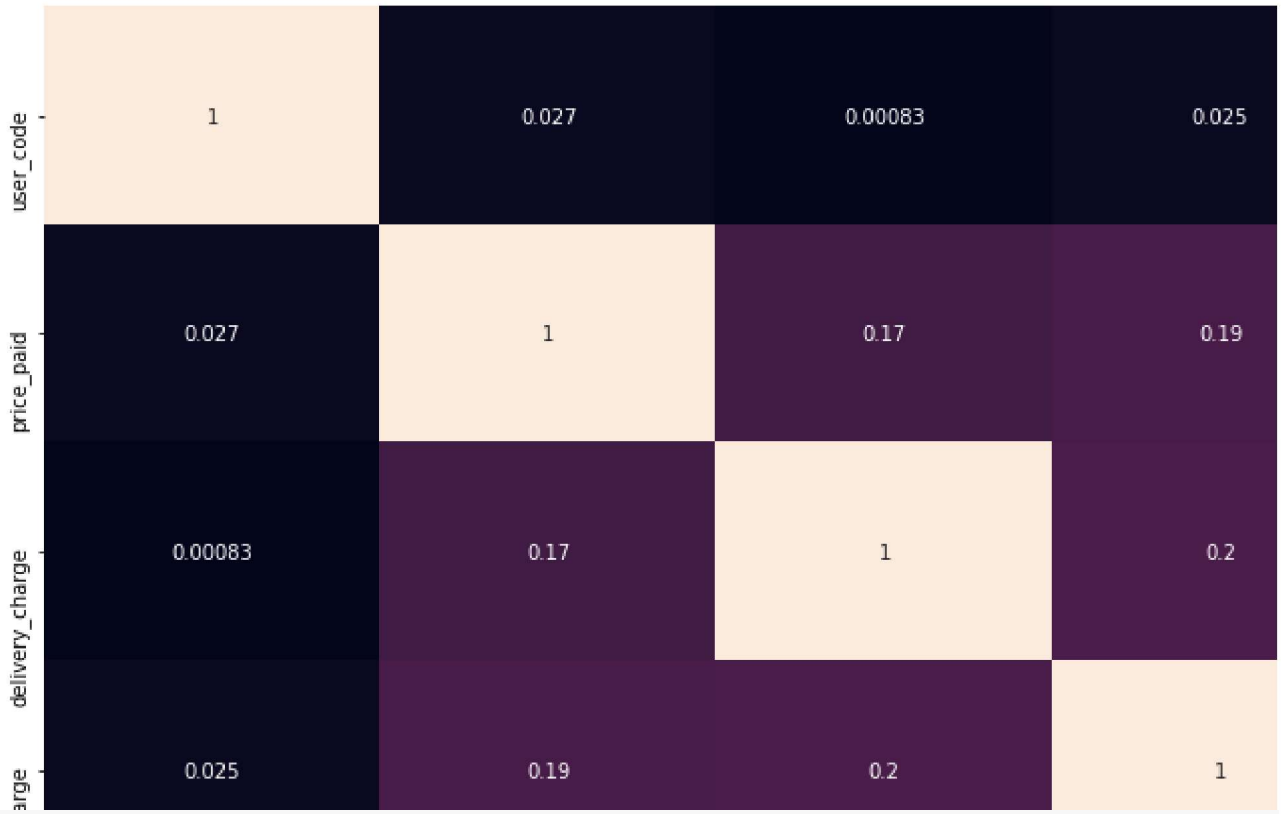
	user_code	price_paid	delivery_charge	packing_charge
count	34576.000000	34576.000000	34576.000000	34576.000000
mean	37080.601255	181.340701	4.229096	3.039987
std	28273.252080	183.469593	9.049135	8.202225
min	51.000000	0.300000	0.000000	0.000000
25%	8352.000000	88.000000	0.000000	0.000000
50%	36125.000000	125.000000	0.000000	0.000000

```
#information about data
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 34576 entries, 0 to 34575
Data columns (total 11 columns):
user_code          34576 non-null int64
date               34576 non-null datetime64[ns]
company            34576 non-null object
restaurant         34576 non-null object
price_paid         34576 non-null float64
delivery_charge    34576 non-null float64
packing_charge     34576 non-null float64
district           34576 non-null object
state              34576 non-null object
zone               34576 non-null object
day                34576 non-null object
dtypes: datetime64[ns](1), float64(3), int64(1), object(6)
memory usage: 2.9+ MB
```

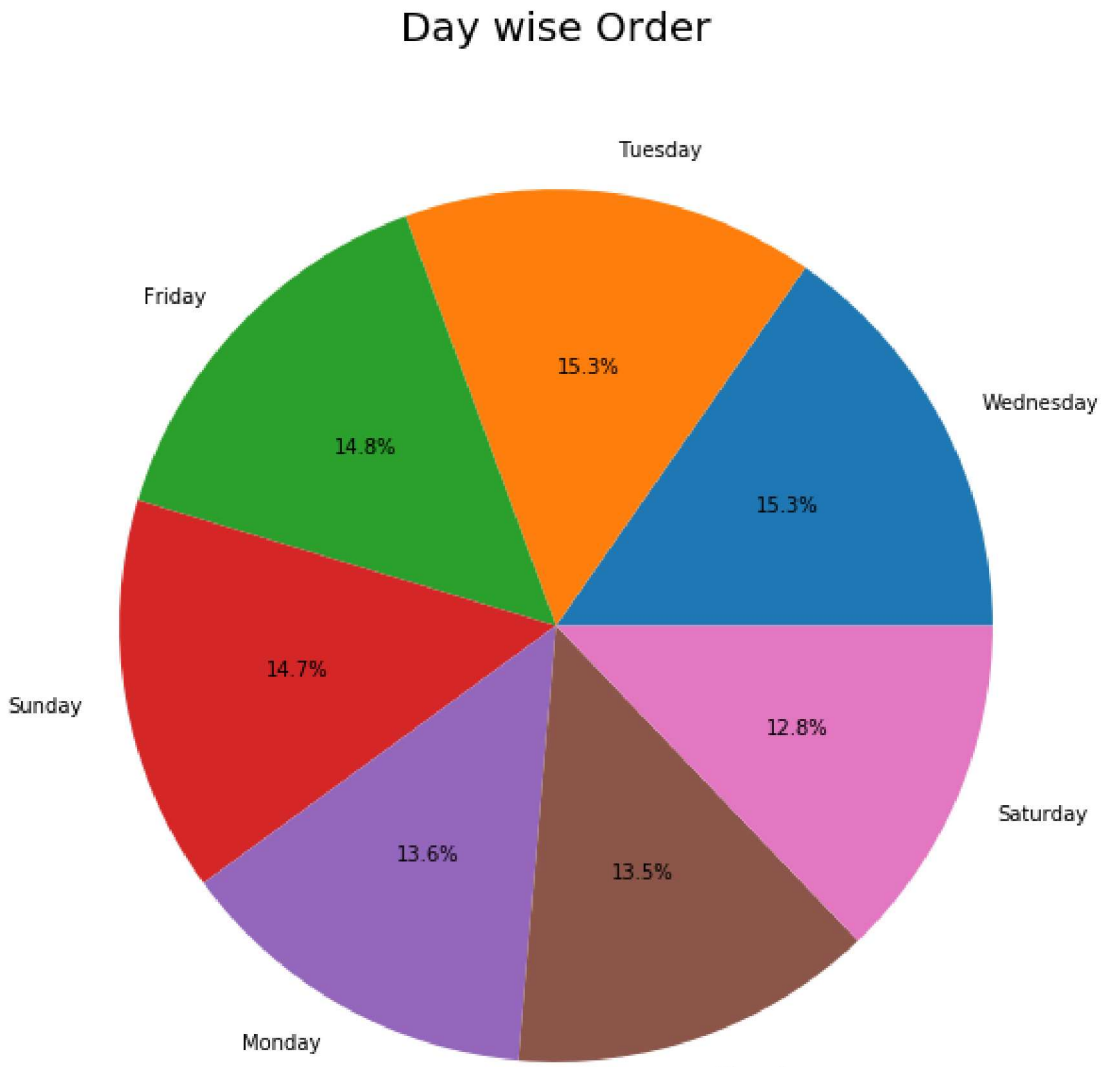
```
#correlation matrix
corr = data.corr(method='kendall')
plt.figure(figsize=(15,8))
sns.heatmap(corr, annot=True)
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f5012542780>
```



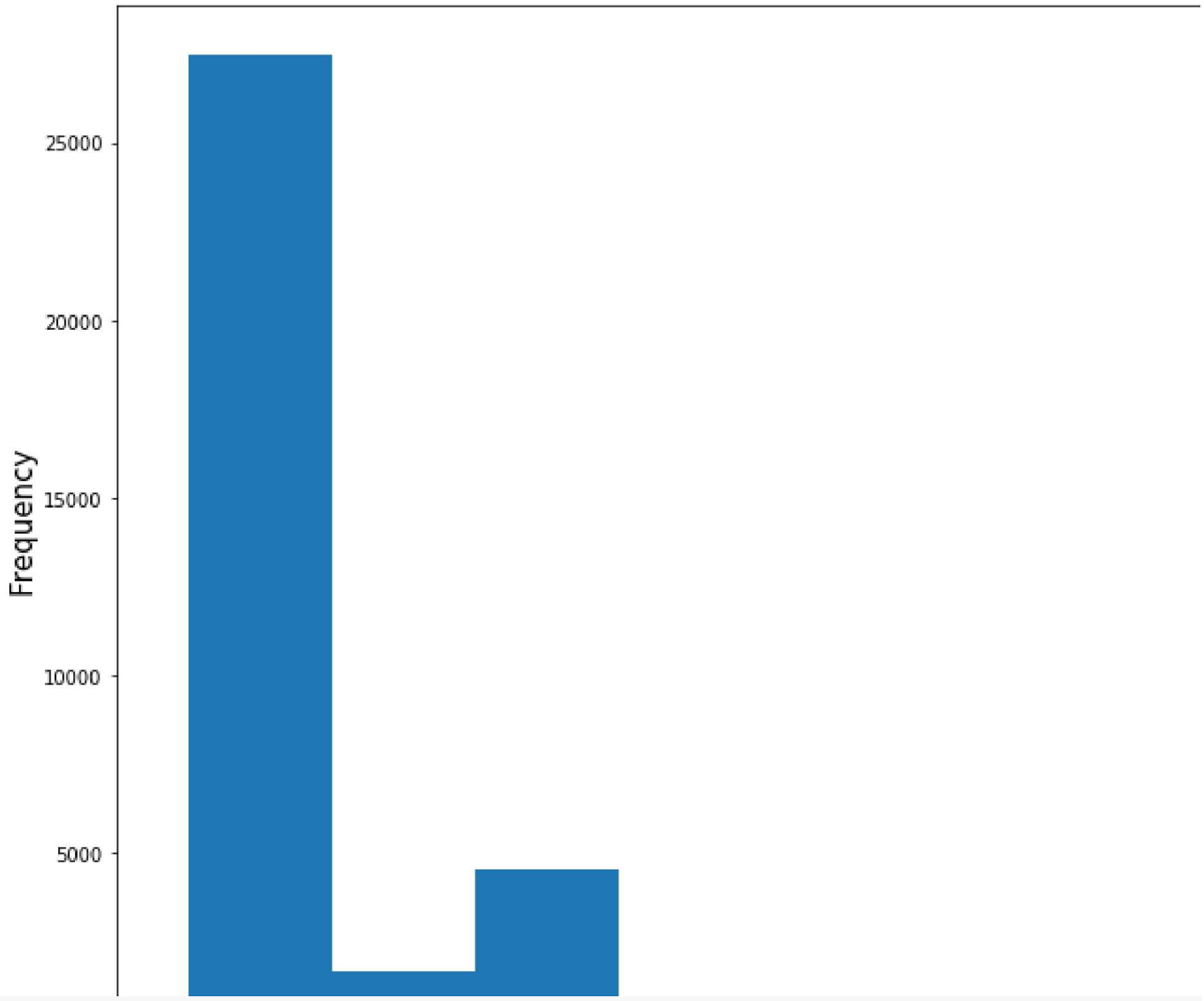

```
plt.figure(figsize=(10,10))
chains=data['day'].value_counts()
plt.pie(x=chains,labels=chains.index,autopct='%1.1f%%')
plt.title("Day wise Order",size=20,pad=20)
```

```
Text(0.5, 1.0, 'Day wise Order')
```



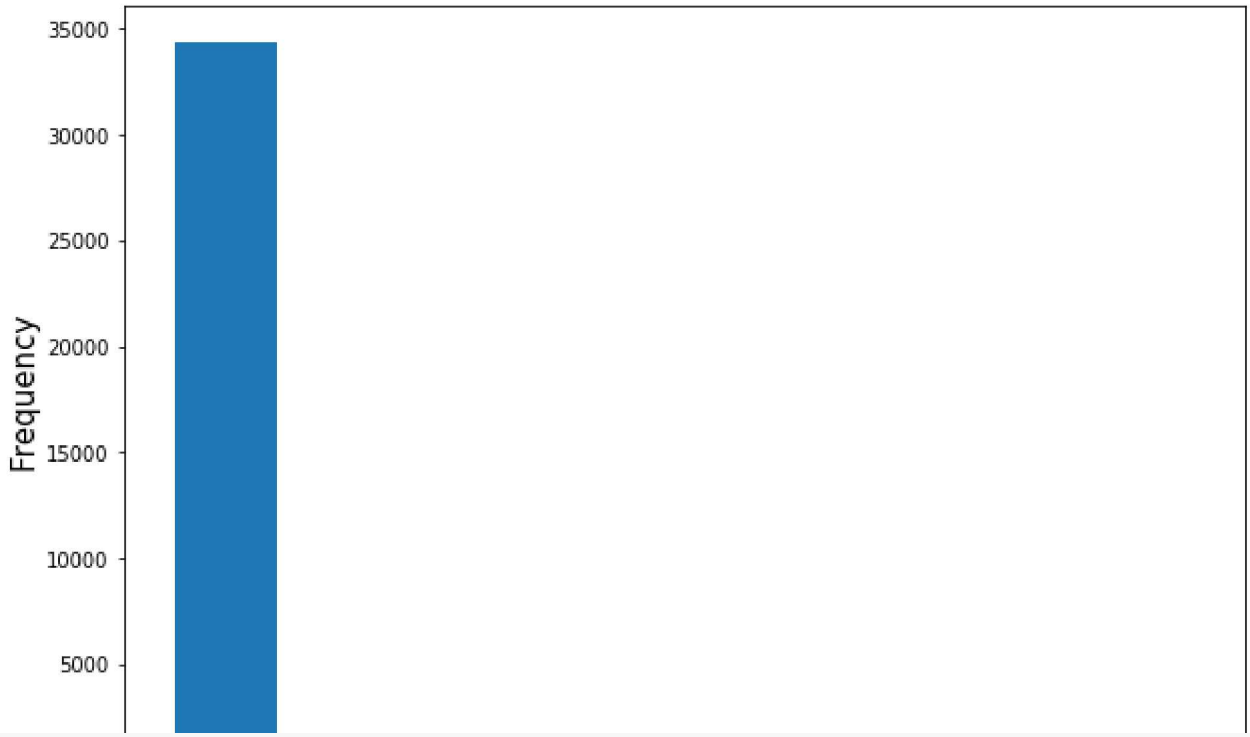

```
plt.figure(figsize=(15,10))
plt.hist(data['delivery_charge'])
plt.ylabel('Frequency',fontsize = 15)
plt.xlabel('del_charge',fontsize = 15)
```

```
Text(0.5, 0, 'del_charge')
```



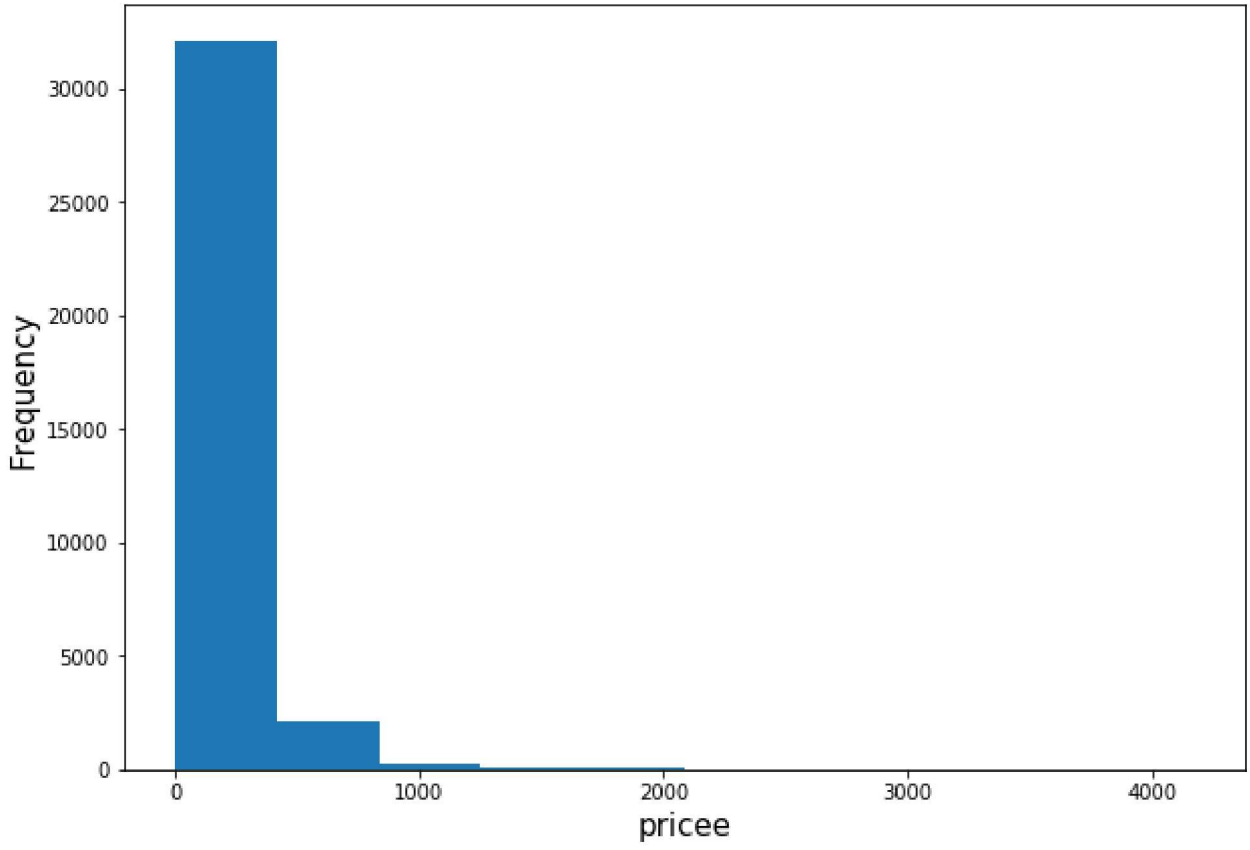

```
plt.figure(figsize=(10,7))
plt.hist(data['packing_charge'])
plt.ylabel('Frequency',fontsize = 15)
plt.xlabel('packing_charge',fontsize = 15)
```

```
Text(0.5, 0, 'packing_charge')
```




```
plt.figure(figsize=(10,7))
plt.hist(data['price_paid'])
plt.ylabel('Frequency',fontsize = 15)
plt.xlabel('pricee',fontsize = 15)
```

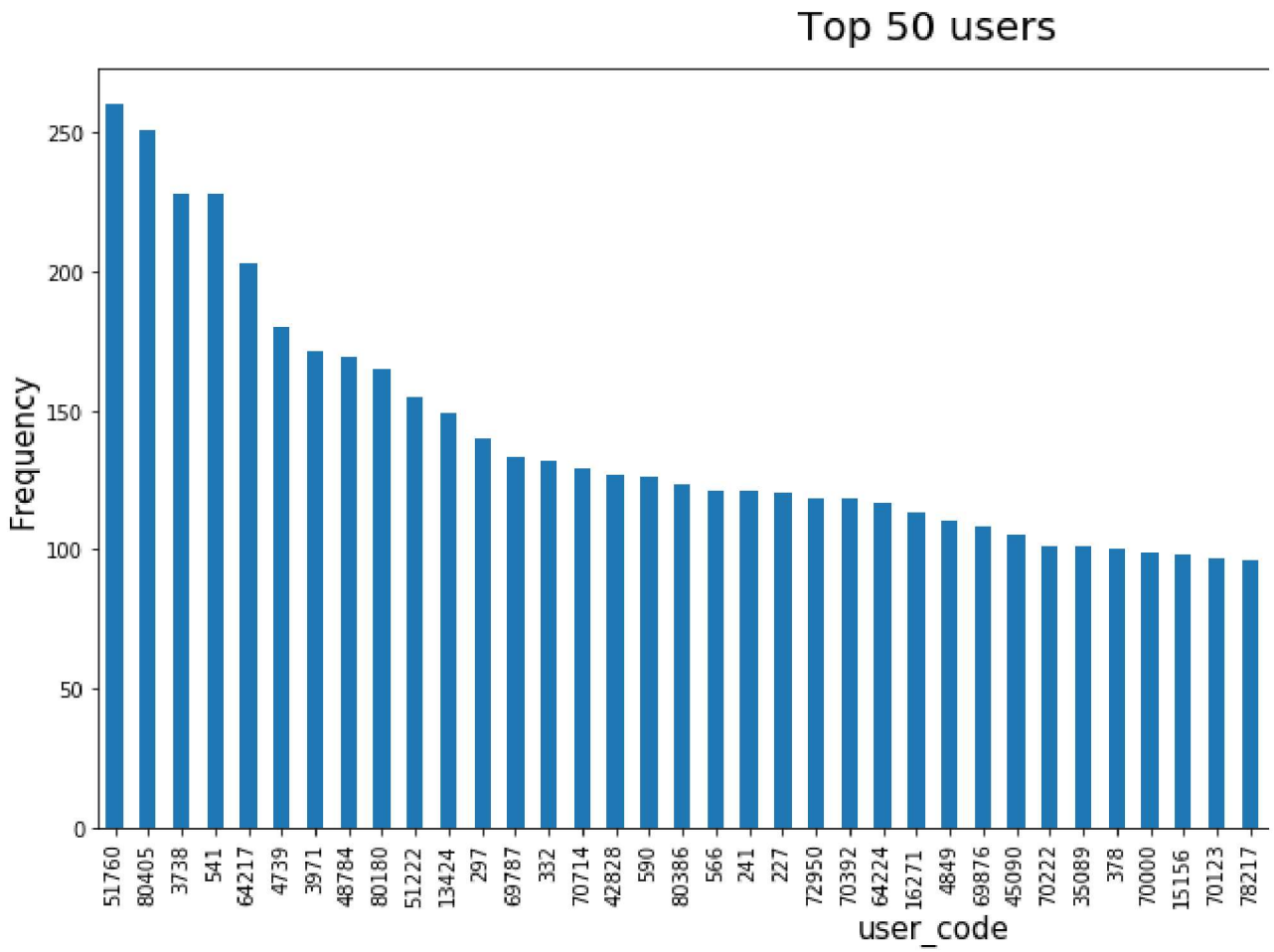
```
Text(0.5, 0, 'pricee')
```




```
plt.figure(figsize=(15,7))
```

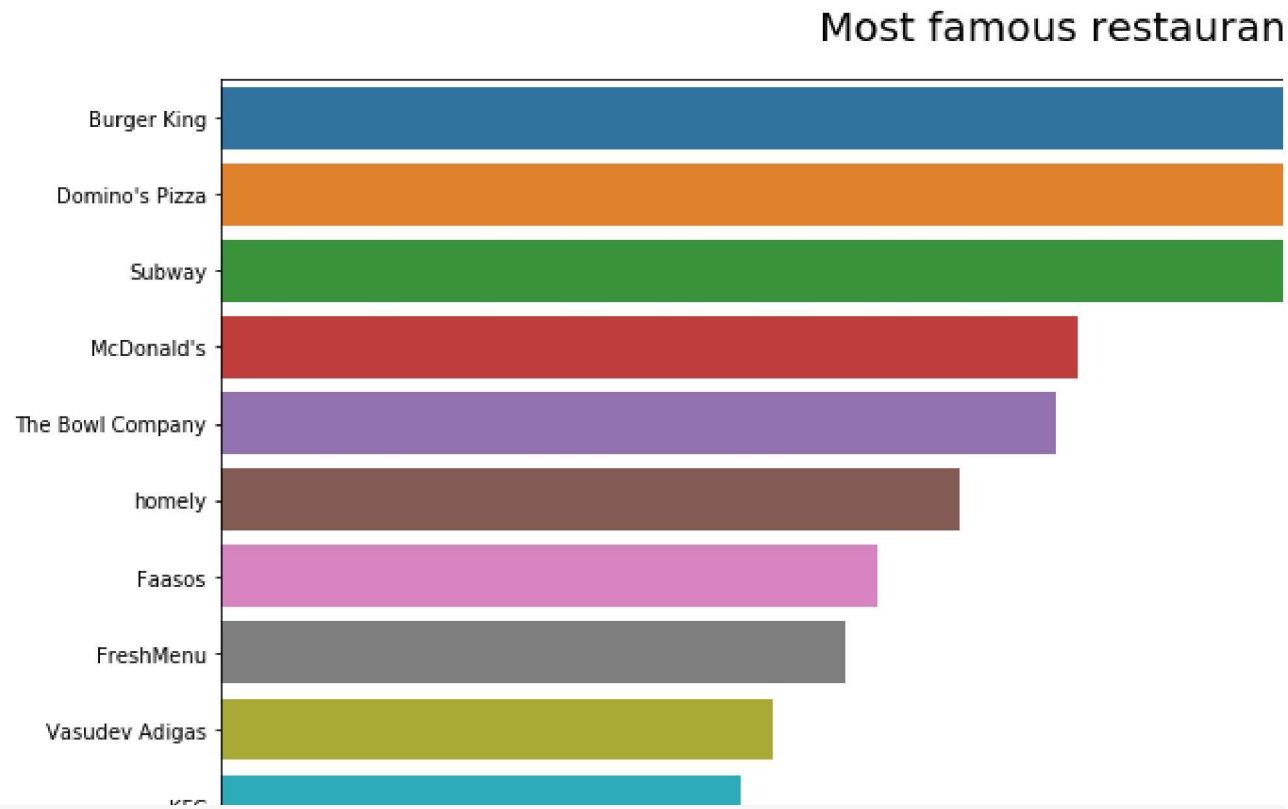
```
data['user_code'].value_counts()[ :50].plot.bar()
plt.xlabel('user_code', fontsize = 15)
plt.ylabel('Frequency', fontsize = 15)
plt.title('Top 50 users ',size=20,pad=15)
```

```
Text(0.5, 1.0, 'Top 50 users ')
```



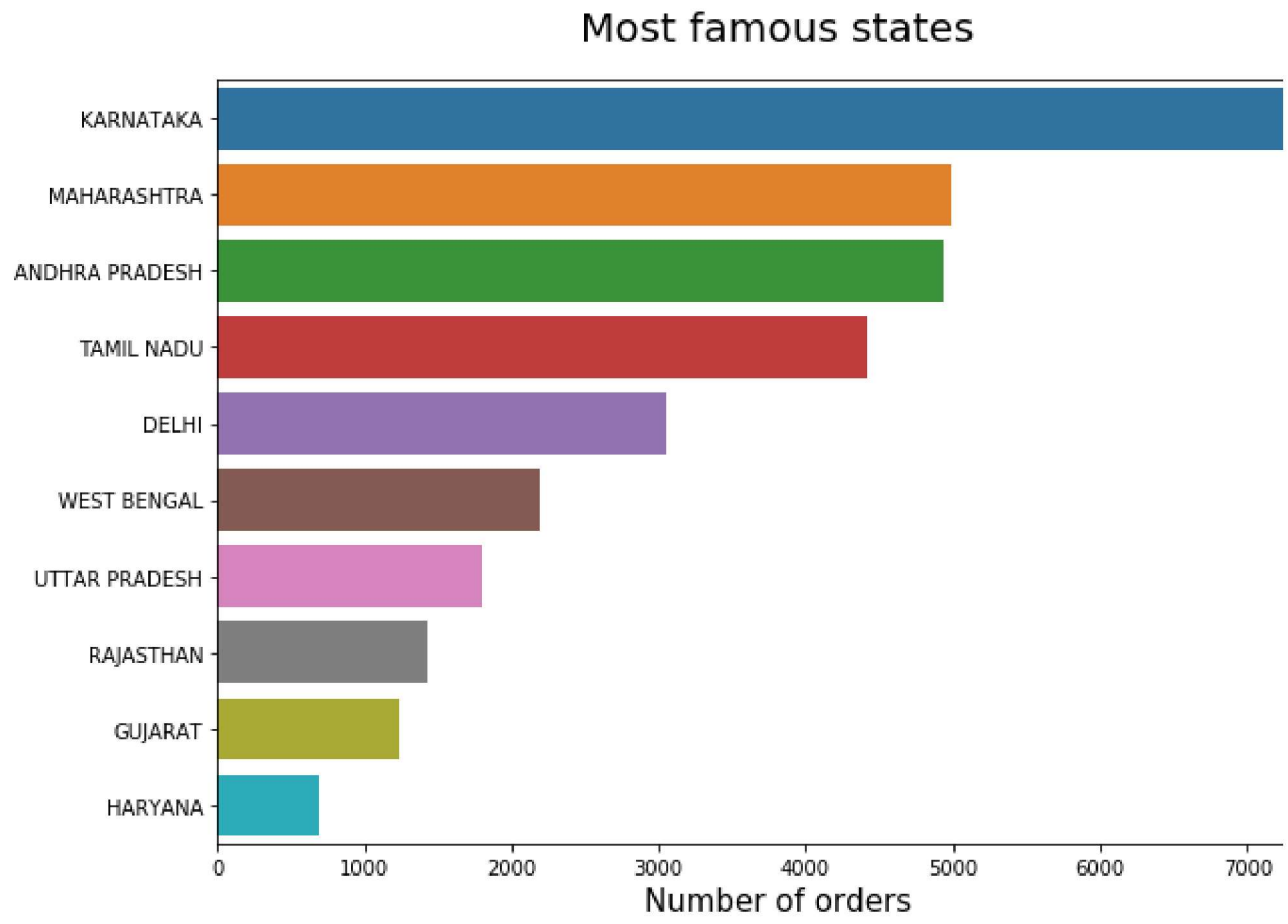

```
plt.figure(figsize=(15,7))
chains=data['restaurant'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous restaurant",size=20,pad=20)
plt.xlabel("Number of outlets",size=15)
```

```
Text(0.5, 0, 'Number of outlets')
```



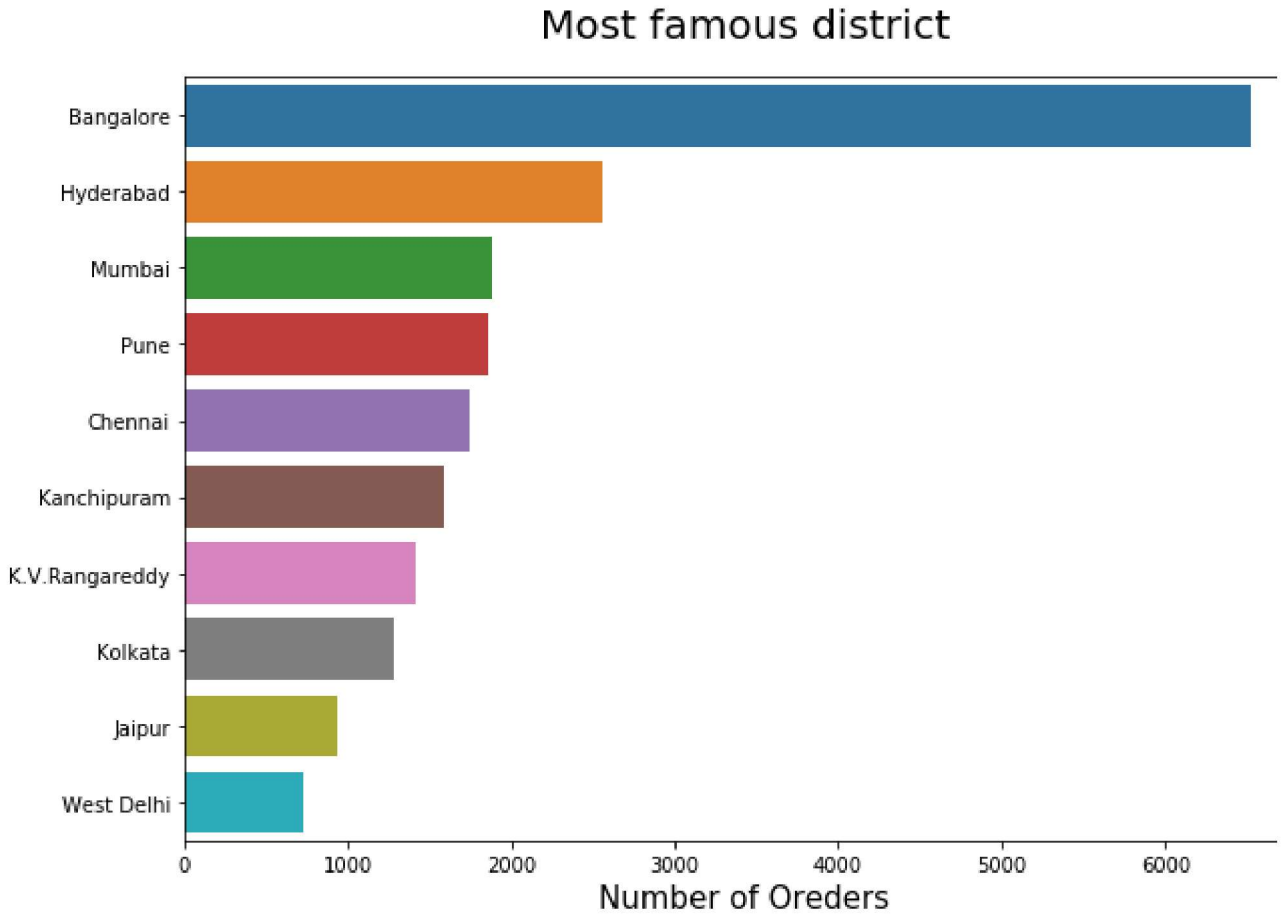

```
plt.figure(figsize=(10,7))
chains=data['state'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous states",size=20,pad=20)
plt.xlabel("Number of orders",size=15)
```

```
Text(0.5, 0, 'Number of orders')
```



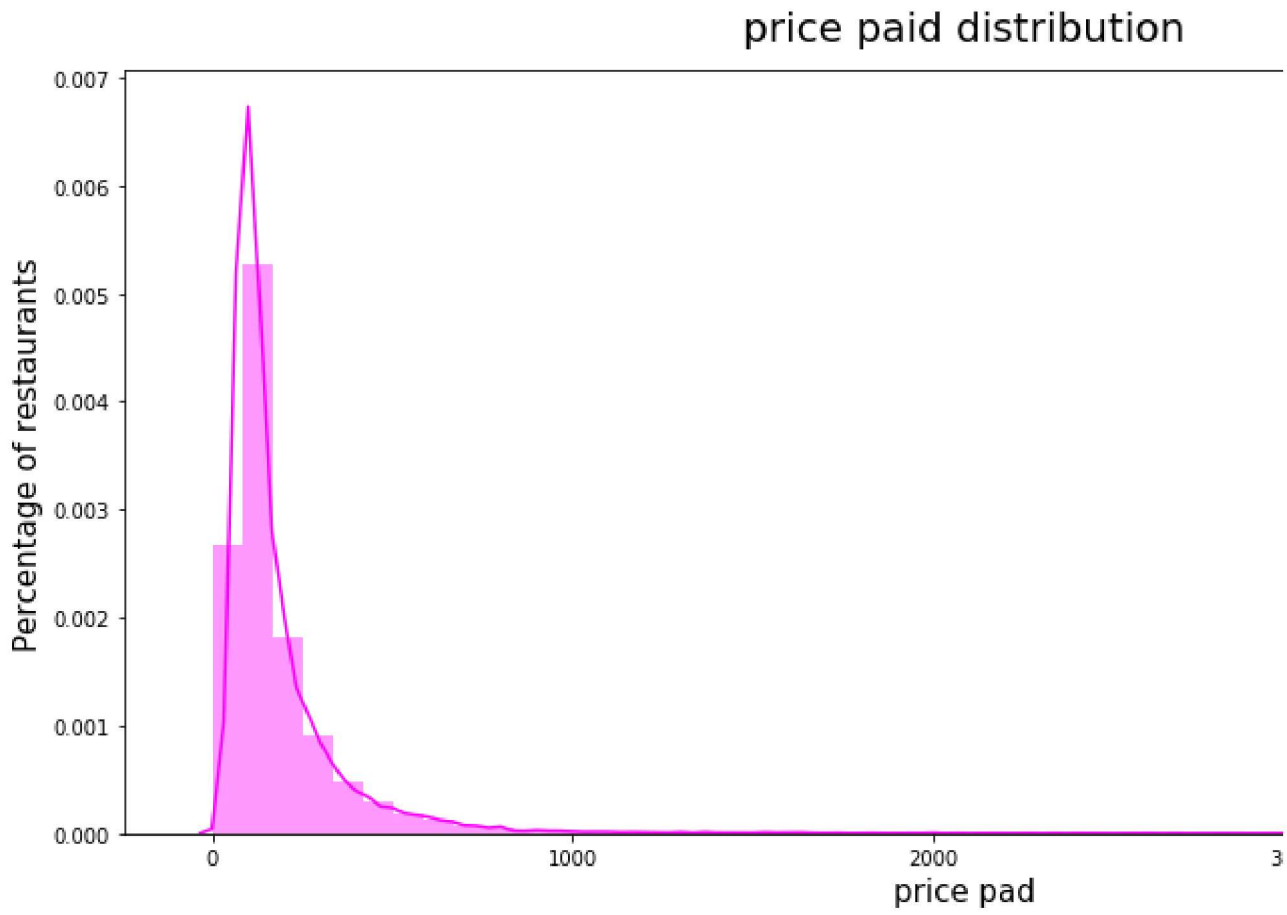
```
plt.figure(figsize=(10,7))
chains=data['district'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous district",size=20,pad=20)
plt.xlabel("Number of Oreders",size=15)
```

```
Text(0.5, 0, 'Number of Oreders')
```



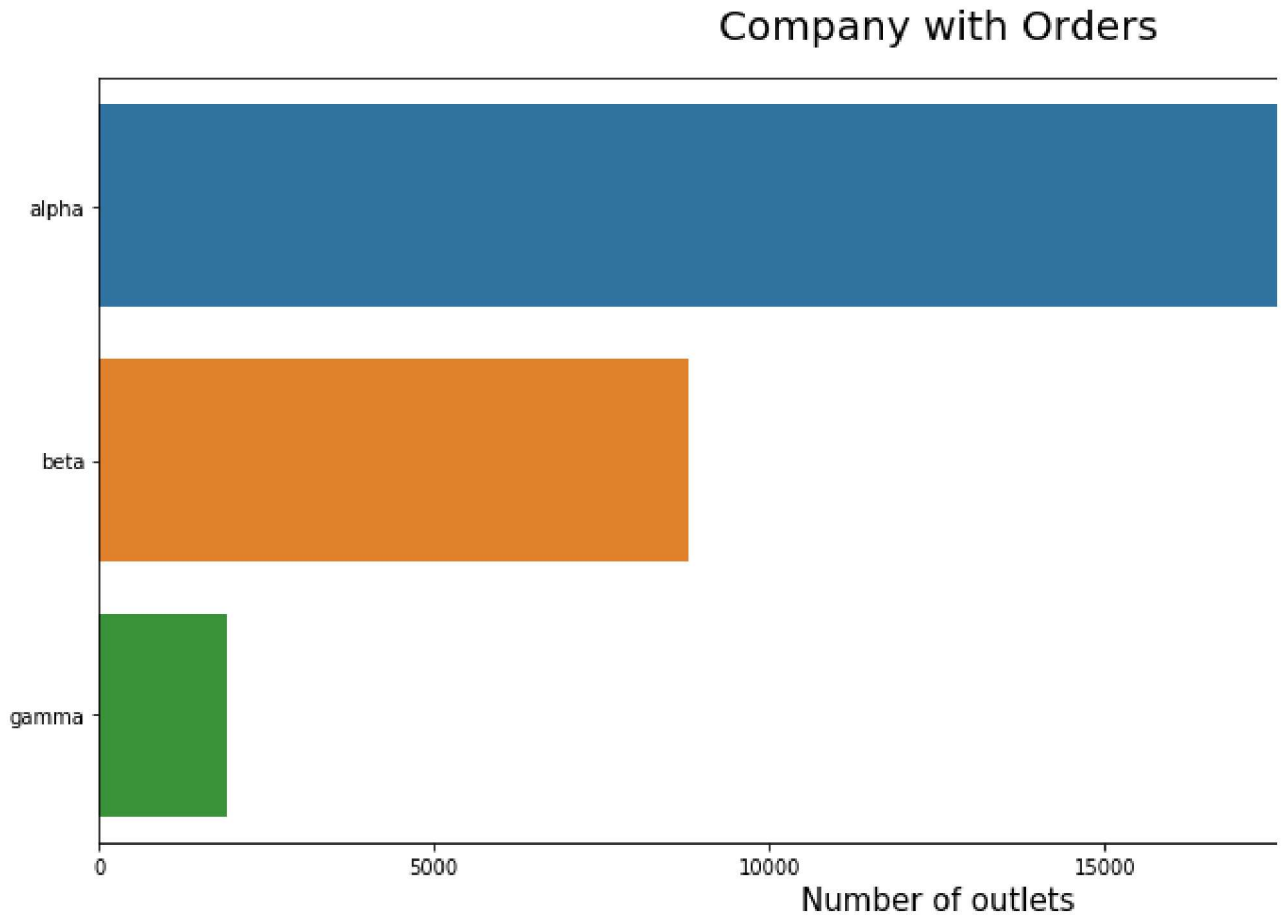
```
fig, ax = plt.subplots(figsize=[15,7])
sns.distplot(data['price_paid'],color="magenta")
ax.set_title('price paid distribution',size=20,pad=15)
plt.xlabel('price pad',size = 15)
plt.ylabel('Percentage of restaurants',size = 15)
```

```
Text(0, 0.5, 'Percentage of restaurants')
```



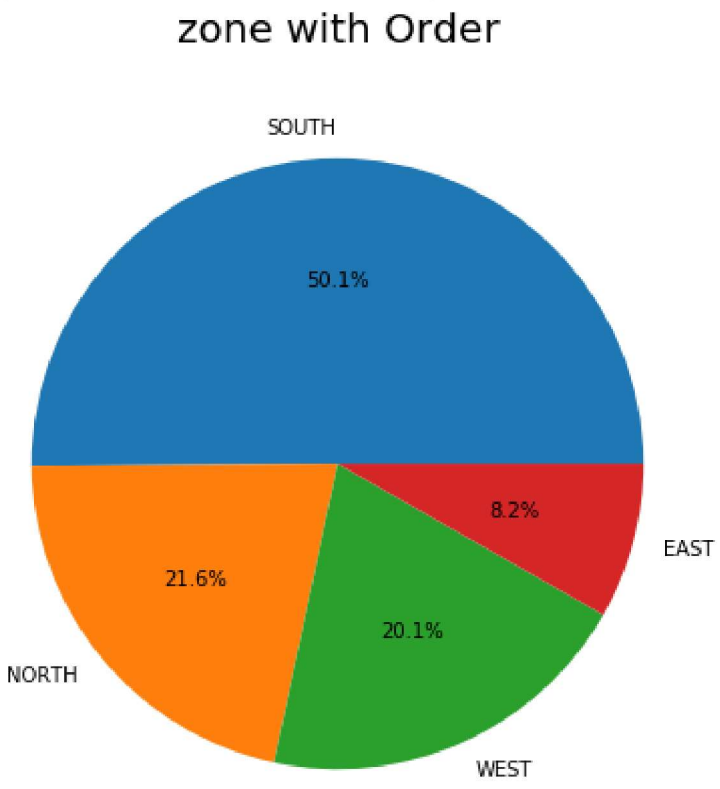
```
plt.figure(figsize=(15,7))
chains=data['company'].value_counts()
sns.barplot(x=chains,y=chains.index)
plt.title("Company with Orders",size=20,pad=20)
plt.xlabel("Number of outlets",size=15)
```

```
Text(0.5, 0, 'Number of outlets')
```



```
plt.figure(figsize=(10,7))
chains=data['zone'].value_counts()
plt.pie(x=chains,labels=chains.index,autopct='%1.1f%%')
plt.title("zone with Order",size=20,pad=20)
```

```
Text(0.5, 1.0, 'zone with Order')
```

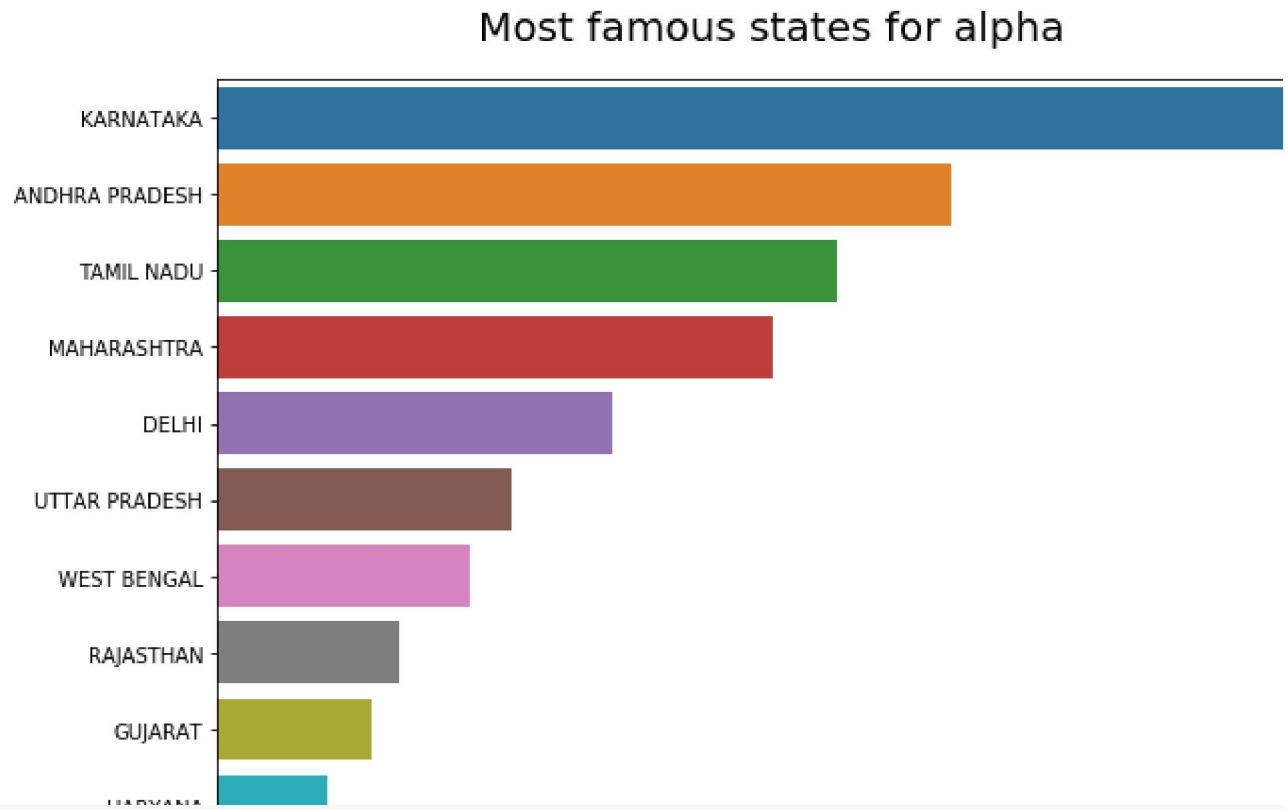


```
#analising any specific company(as alpha)
Alpha= data[data['company']=='alpha']
Alpha.head()
#Alpha.shape
```

	user_code	date	company	restaurant	price_paid	delivery_charge	packing_charg
0	227	2019-01-01	alpha	Burger Spot	125.0	0.0	10
1	297	2019-01-01	alpha	Cafe Coffee Day	192.0	0.0	10
2	297	2019-01-01	alpha	Malini's Health Kitchen	65.0	0.0	0

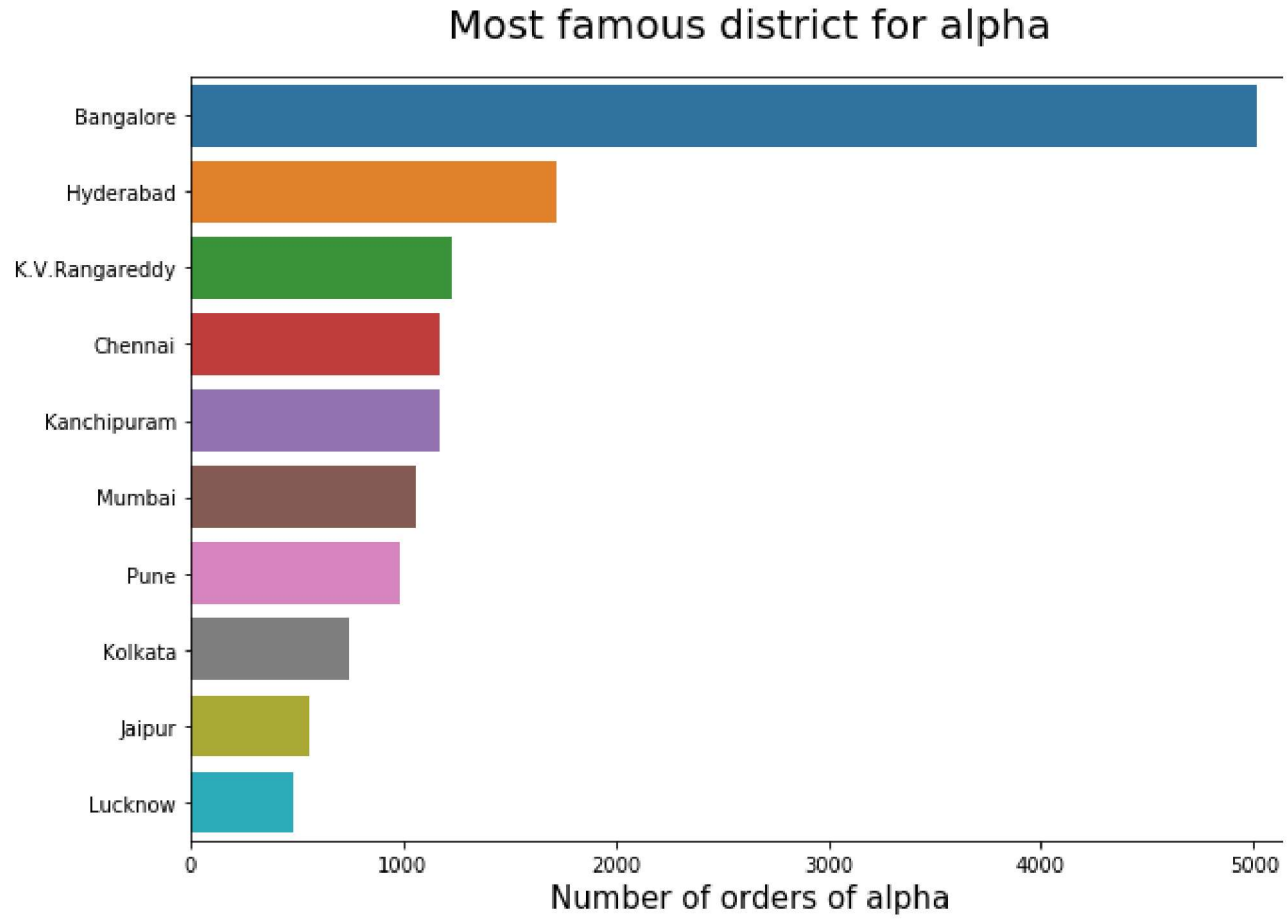
```
plt.figure(figsize=(10,7))
chains=Alpha['state'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous states for alpha ",size=20,pad=20)
plt.xlabel("Number of orders of alpha",size=15)
```

```
Text(0.5, 0, 'Number of orders of alpha')
```



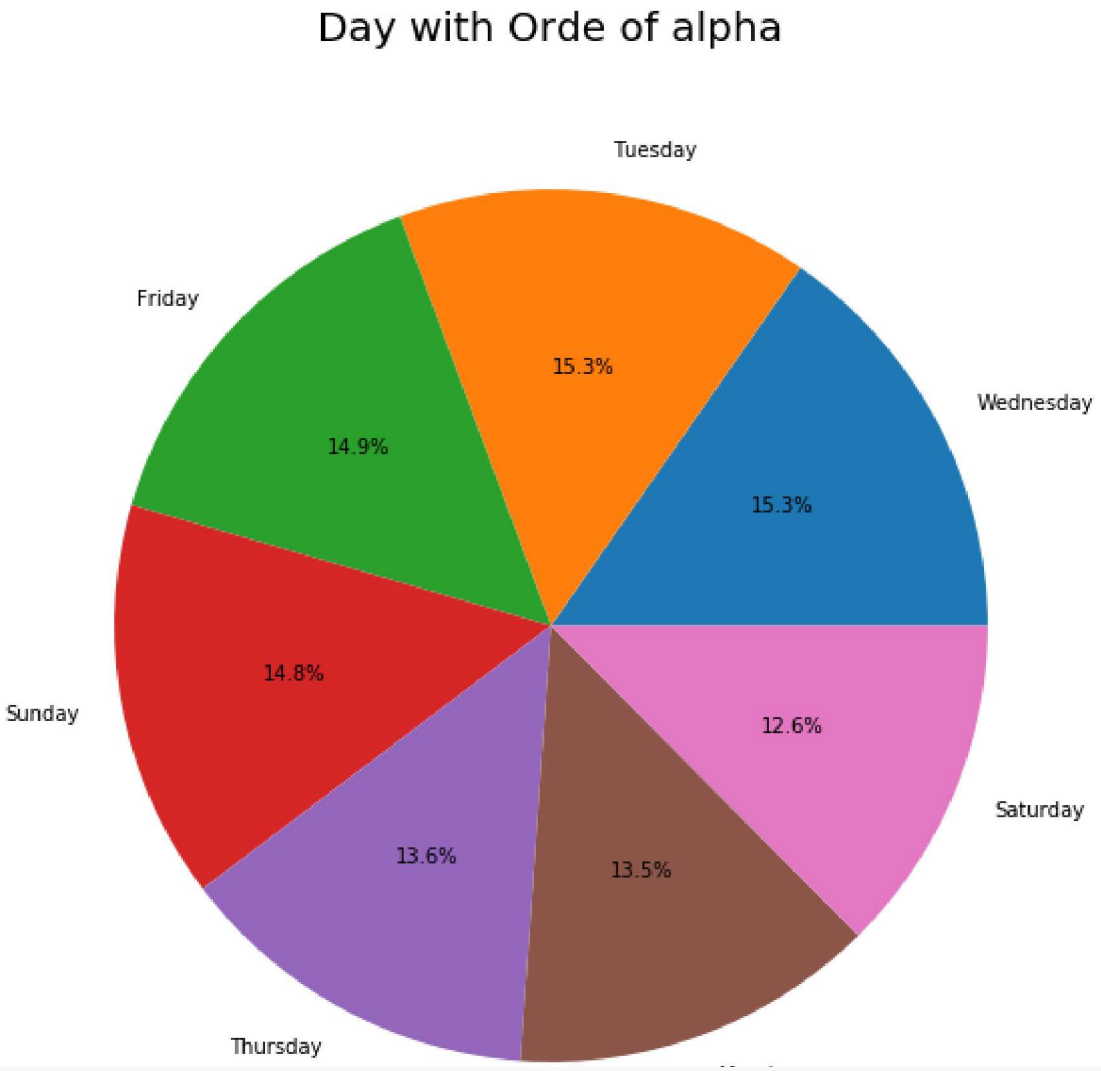

```
plt.figure(figsize=(10,7))
chains=Alpha['district'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous district for alpha",size=20,pad=20)
plt.xlabel("Number of orders of alpha",size=15)
```

```
Text(0.5, 0, 'Number of orders of alpha')
```



```
plt.figure(figsize=(10,10))
chains=Alpha['day'].value_counts()
plt.pie(x=chains,labels=chains.index,autopct='%1.1f%%')
plt.title("Day with Orde of alpha",size=20,pad=20)
```

```
Text(0.5, 1.0, 'Day with Orde of alpha')
```




```
#analising any specific restaurent(as Burger King)
BK = data[data['restaurant']=='Burger King']
BK.head()
```

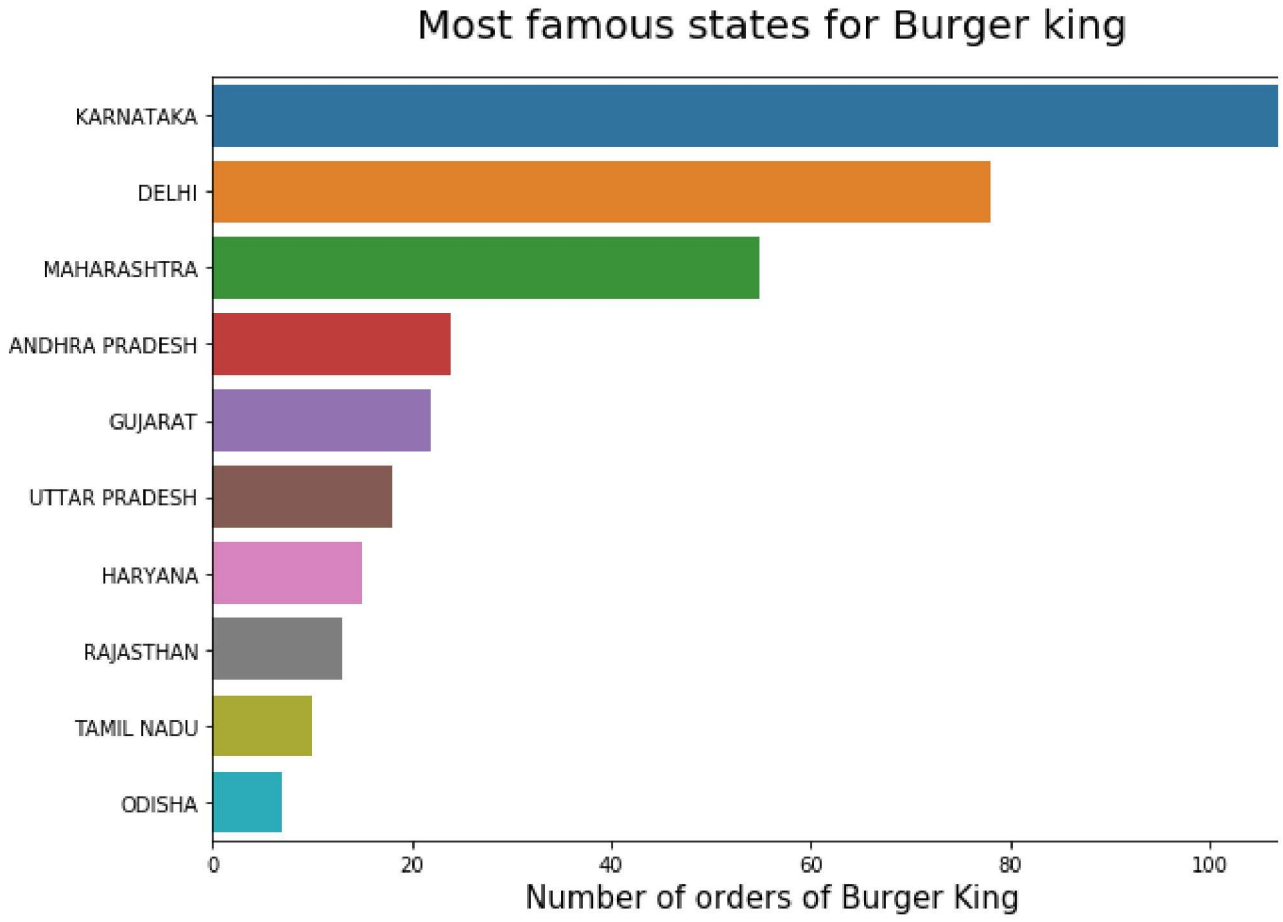
	user_code	date	company	restaurant	price_paid	delivery_charge	packing_cha
14	2518	2019-01-01	alpha	Burger King	108.0	0.0	
276	27730	2019-02-01	alpha	Burger King	73.0	0.0	
285	35201	2019-02-01	alpha	Burger King	182.0	0.0	
		2019-					

```
BK.describe()
```

	user_code	price_paid	delivery_charge	packing_charge
count	351.000000	351.000000	351.000000	351.000000
mean	41917.062678	208.040969	3.108262	16.441595
std	27192.883403	175.080710	7.996407	14.389932
min	60.000000	51.000000	0.000000	0.000000
25%	18102.500000	114.680000	0.000000	0.000000
50%	42828.000000	162.000000	0.000000	29.000000

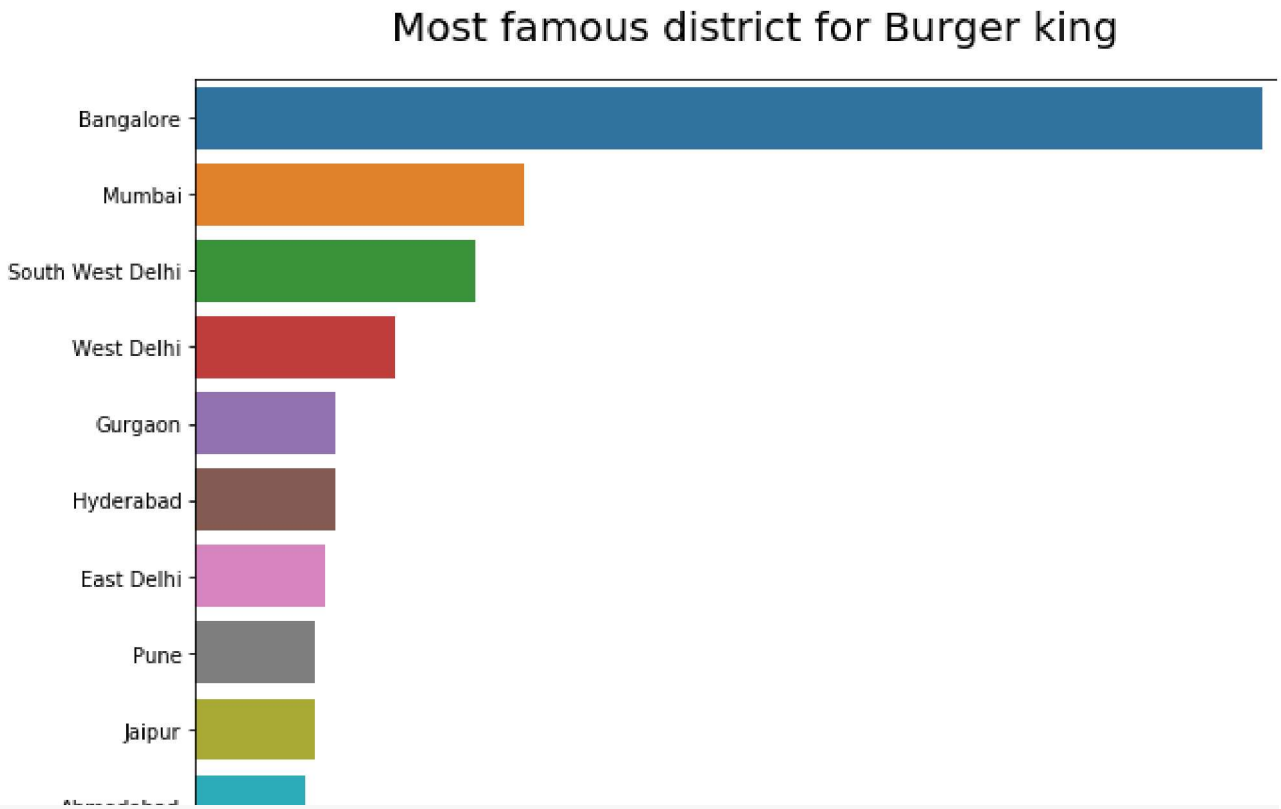
```
plt.figure(figsize=(10,7))
chains=BK['state'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous states for Burger king",size=20,pad=20)
plt.xlabel("Number of orders of Burger King",size=15)
```

```
Text(0.5, 0, 'Number of orders of Burger King')
```



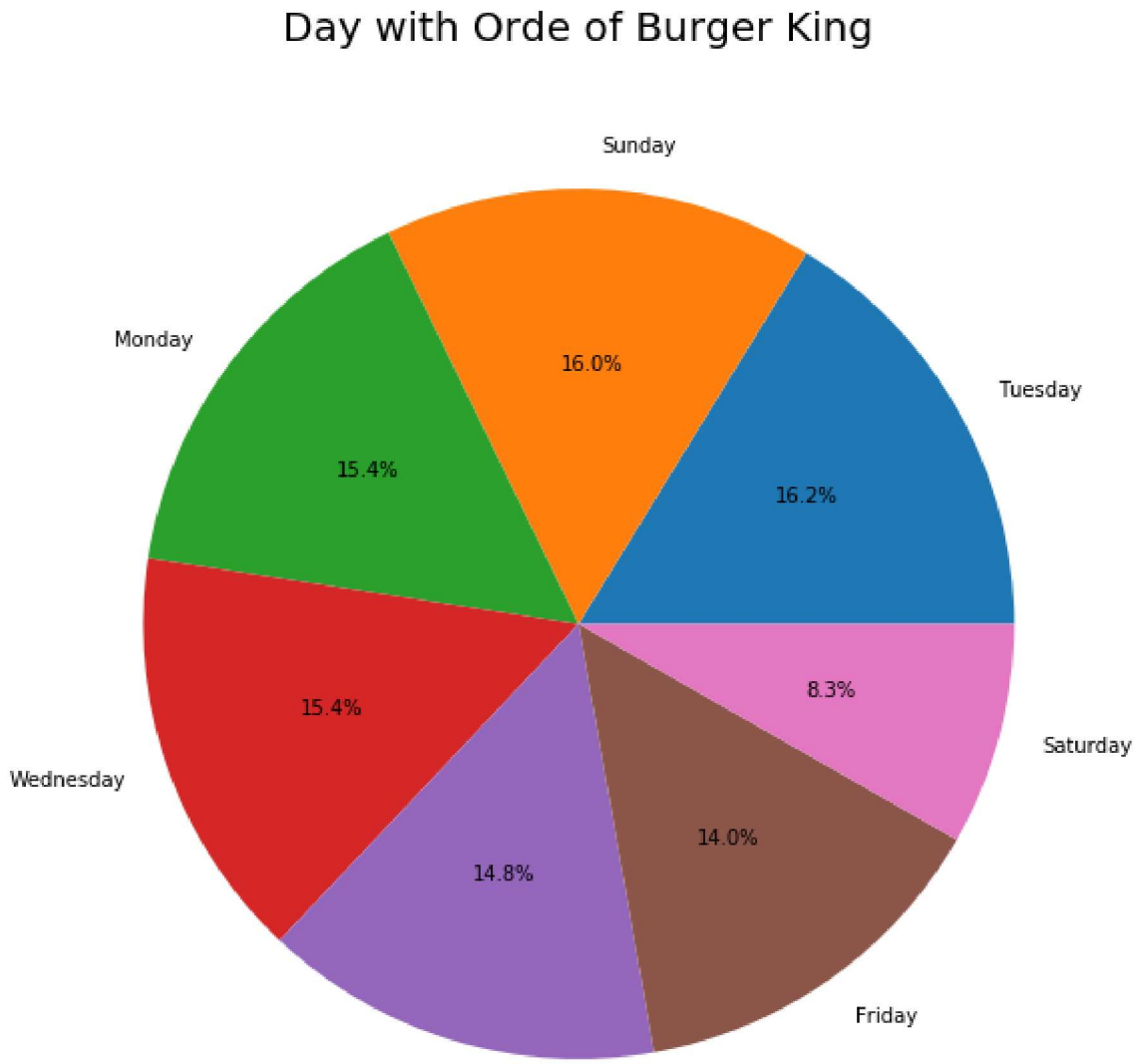

```
plt.figure(figsize=(10,7))
chains=BK['district'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous district for Burger king",size=20,pad=20)
plt.xlabel("Number of orders of Burger King",size=15)
```

```
Text(0.5, 0, 'Number of orders of Burger King')
```




```
plt.figure(figsize=(10,10))
chains=BK['day'].value_counts()
plt.pie(x=chains,labels=chains.index,autopct='%1.1f%%')
plt.title("Day with Orde of Burger King",size=20,pad=20)
```

```
Text(0.5, 1.0, 'Day with Orde of Burger King')
```

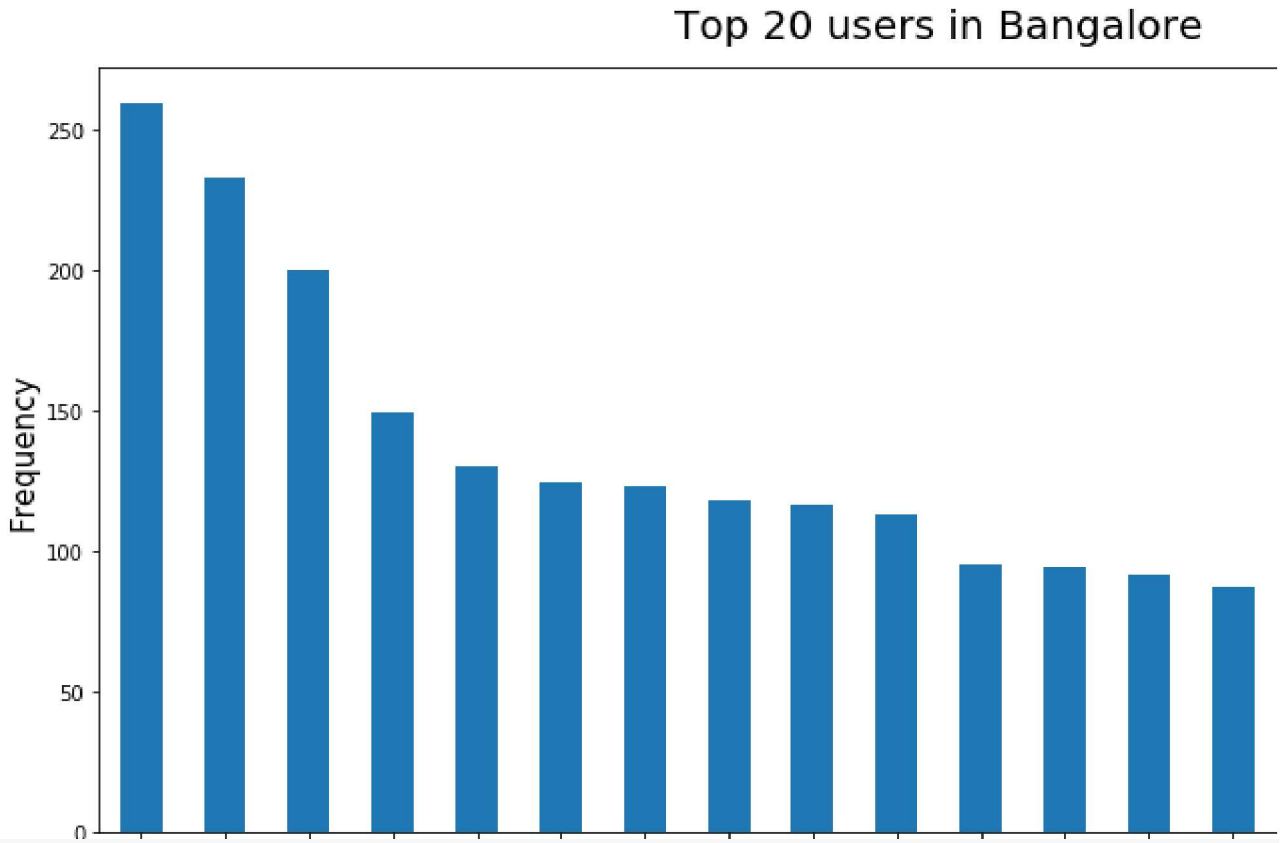



```
#analising any specific district(as Bangalore)
Bang= data[data['district']=='Bangalore']
Bang.head()
#Bang.shape
```

	user_code	date	company	restaurant	price_paid	delivery_charge	packing_charg
1	297	2019-01-01	alpha	Cafe Coffee Day	192.0	0.0	10
2	297	2019-01-01	alpha	Malini's Health Kitchen	65.0	0.0	0
3	394	2019-01-01	alpha	The Bowl Company	292.0	0.0	19

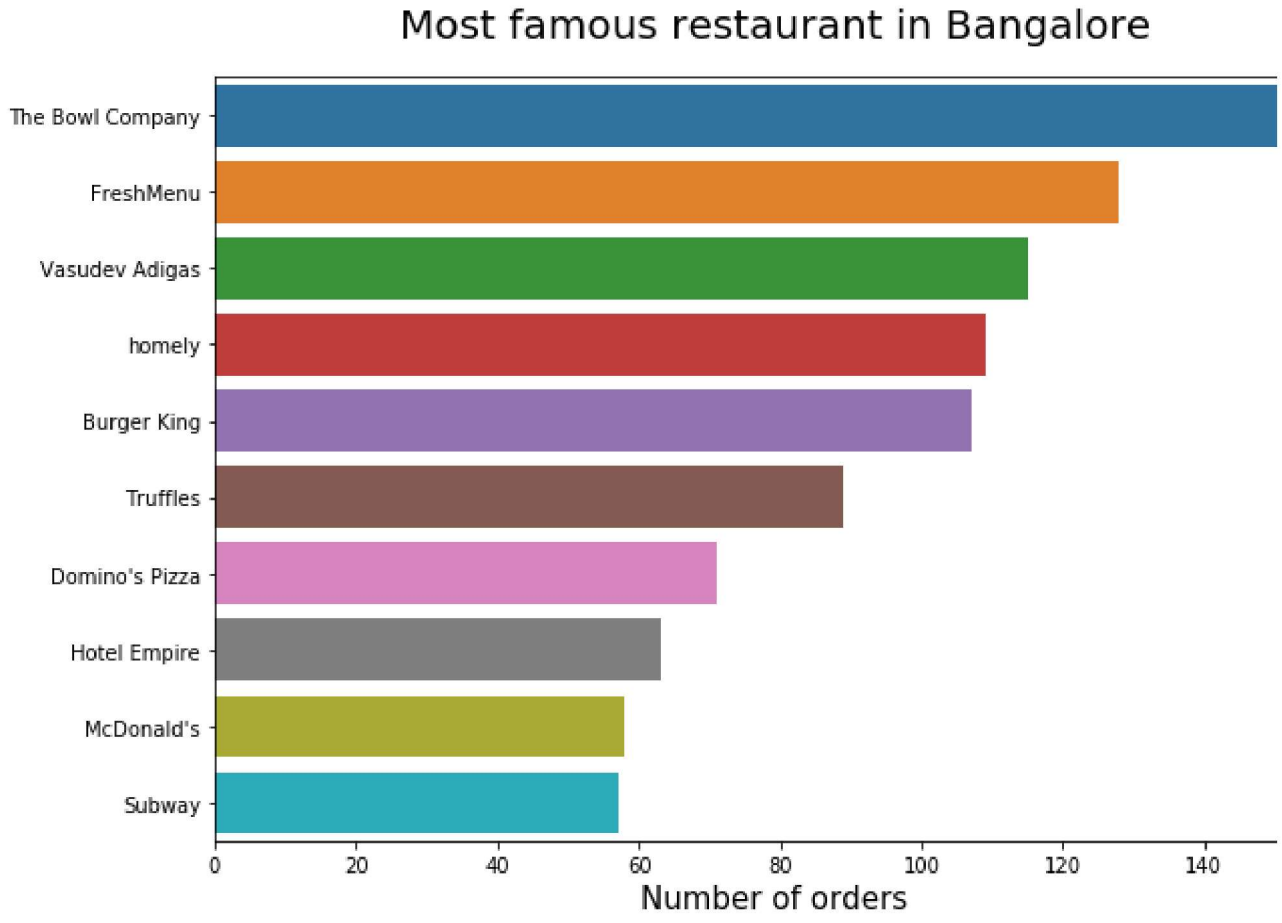
```
plt.figure(figsize=(15,7))
Bang['user_code'].value_counts()[ :20].plot.bar()
plt.xlabel('user_code', fontsize = 15)
plt.ylabel('Frequency', fontsize = 15)
plt.title('Top 20 users in Bangalore',size=20,pad=15)
```

```
Text(0.5, 1.0, 'Top 20 users in Bangalore')
```




```
plt.figure(figsize=(10,7))
chains=Bang['restaurant'].value_counts()[:10]
sns.barplot(x=chains,y=chains.index)
plt.title("Most famous restaurant in Bangalore",size=20,pad=20)
plt.xlabel("Number of orders",size=15)
```

```
Text(0.5, 0, 'Number of orders')
```



```
plt.figure(figsize=(10,10))
chains=Bang['day'].value_counts()
plt.pie(x=chains,labels=chains.index,autopct='%1.1f%%')
plt.title("Day with Orders in Bangalore",size=20,pad=20)
```

```
Text(0.5, 1.0, 'Day with Orders in Bangalore')
```