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import pandas as pd
import numpy as np

df = pd.read_csv('311_Service_Requests_from_2010_to_Present.csv')

df.shape

df.isna()

df.isna().sum(axis=0)

df.head()

df1=df.drop(["Garage Lot Name","Taxi Pick Up Location","Taxi Company
Borough","Vehicle Type","School or Citywide Complaint"],axis=1)
df1.head()

df1.describe()

df2=df1.loc[:,['Complaint Type','City']]
df2

from matplotlib import pyplot as plt
plt.rcParams["figure.figsize"] = [7.50, 3.50]
plt.rcParams["figure.autolayout"] = True

fig, ax = plt.subplots()

df2['City'].value_counts().plot(ax=ax, kind='bar', xlabel='City',
ylabel='frequency')

plt.show()

df_Brooklyn = df1[df1['City']=='BROOKLYN']

df_Brooklyn.shape

(df_Brooklyn['Complaint
Type'].value_counts()).head(25).plot(kind='bar',

figsize=(10,6),title = 'Most Frequent Complaints in Brooklyn')

df_Brooklyn[['Longitude', 'Latitude']].plot(kind='scatter',
x='Longitude', y='Latitude', figsize=(10,8),title = 'Complaints
concentration across Brooklyn').axis('equal')

df_Brooklyn.plot(kind='hexbin',x='Latitude',y='Longitude',gridsize=40,
colormap = 'jet',mincnt=1,title = 'Complaints concentration across
Brooklyn\n', figsize=(10,6)).axis('equal')

major=df2.loc[:, "Complaint Type"]
major

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major.unique()
major.nunique()
top=major.value_counts()
top

major.value_counts().plot(kind='bar',title='count vs. complaint
types')

# Visualize the complaint types
top.plot(kind='hist',title='Visualize the complaint types')

#o Display the major complaint types and their count
top.head(10).plot(kind='bar',title='The major complaint types and
their count')
```