

Customer Service Request Analysis

importing libraries

```
import numpy as np
import pandas as pd
```

```
import seaborn as sns
import matplotlib.pyplot as plt
from matplotlib import style
%matplotlib inline
```

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

```
from scipy import stats
from scipy.stats import chi2_contingency
```

```
dataframe1=pd.read_csv('311_Service_Requests_from_2010_to_Present.csv')
)
```

```
dataframe1.head()
```

	Unique Key	Created Date	Closed Date	
Agency \				
0	32310363	12/31/2015 11:59:45 PM	01/01/2016 12:55:15 AM	NYPD
1	32309934	12/31/2015 11:59:44 PM	01/01/2016 01:26:57 AM	NYPD
2	32309159	12/31/2015 11:59:29 PM	01/01/2016 04:51:03 AM	NYPD
3	32305098	12/31/2015 11:57:46 PM	01/01/2016 07:43:13 AM	NYPD
4	32306529	12/31/2015 11:56:58 PM	01/01/2016 03:24:42 AM	NYPD

	Agency Name	Complaint Type \
0	New York City Police Department	Noise - Street/Sidewalk
1	New York City Police Department	Blocked Driveway
2	New York City Police Department	Blocked Driveway
3	New York City Police Department	Illegal Parking
4	New York City Police Department	Illegal Parking

	Descriptor	Location Type	Incident Zip \
0	Loud Music/Party	Street/Sidewalk	10034.0
1	No Access	Street/Sidewalk	11105.0
2	No Access	Street/Sidewalk	10458.0
3	Commercial Overnight Parking	Street/Sidewalk	10461.0

4 Blocked Sidewalk Street/Sidewalk 11373.0

	Incident Address	...	Bridge Highway Name	Bridge Highway
Direction \				
0	71 VERMILYEA AVENUE	...		NaN
NaN				
1	27-07 23 AVENUE	...		NaN
NaN				
2	2897 VALENTINE AVENUE	...		NaN
NaN				
3	2940 BAISLEY AVENUE	...		NaN
NaN				
4	87-14 57 ROAD	...		NaN
NaN				

	Road Ramp	Bridge Highway Segment	Garage Lot	Name	Ferry	Direction \
0	NaN		NaN	NaN		NaN
1	NaN		NaN	NaN		NaN
2	NaN		NaN	NaN		NaN
3	NaN		NaN	NaN		NaN
4	NaN		NaN	NaN		NaN

	Ferry Terminal Name	Latitude	Longitude \
0	NaN	40.865682	-73.923501
1	NaN	40.775945	-73.915094
2	NaN	40.870325	-73.888525
3	NaN	40.835994	-73.828379
4	NaN	40.733060	-73.874170

	Location
0	(40.86568153633767, -73.92350095571744)
1	(40.775945312321085, -73.91509393898605)
2	(40.870324522111424, -73.88852464418646)
3	(40.83599404683083, -73.82837939584206)
4	(40.733059618956815, -73.87416975810375)

[5 rows x 53 columns]

dataframe1.shape

(364558, 53)

dataframe1.describe()

	Unique Key	Incident Zip	X Coordinate (State Plane) \
count	3.645580e+05	361560.000000	3.605280e+05
mean	3.106595e+07	10858.496659	1.005043e+06
std	7.331531e+05	578.263114	2.196362e+04
min	2.960737e+07	83.000000	9.133570e+05
25%	3.049938e+07	10314.000000	9.919460e+05
50%	3.108795e+07	11209.000000	1.003470e+06

75%	3.167433e+07	11238.000000	1.019134e+06
max	3.231065e+07	11697.000000	1.067186e+06

	Y Coordinate (State Plane)	School or Citywide Complaint
Vehicle Type \		
count	360528.000000	0.0
0.0		
mean	203425.305782	NaN
NaN		
std	29842.192857	NaN
NaN		
min	121185.000000	NaN
NaN		
25%	182945.000000	NaN
NaN		
50%	201023.000000	NaN
NaN		
75%	222790.000000	NaN
NaN		
max	271876.000000	NaN
NaN		

	Taxi Company Borough	Taxi Pick Up Location	Garage Lot Name \
count	0.0	0.0	0.0
mean	NaN	NaN	NaN
std	NaN	NaN	NaN
min	NaN	NaN	NaN
25%	NaN	NaN	NaN
50%	NaN	NaN	NaN
75%	NaN	NaN	NaN
max	NaN	NaN	NaN

	Latitude	Longitude
count	360528.000000	360528.000000
mean	40.724980	-73.924946
std	0.081907	0.079213
min	40.499040	-74.254937
25%	40.668742	-73.972253
50%	40.718406	-73.930643
75%	40.778166	-73.874098
max	40.912869	-73.700715

dataframe1.columns

Index(['Unique Key', 'Created Date', 'Closed Date', 'Agency', 'Agency Name',
'Complaint Type', 'Descriptor', 'Location Type', 'Incident Zip',
'Incident Address', 'Street Name', 'Cross Street 1', 'Cross Street 2',

```

    'Intersection Street 1', 'Intersection Street 2', 'Address
Type',
    'City', 'Landmark', 'Facility Type', 'Status', 'Due Date',
    'Resolution Description', 'Resolution Action Updated Date',
    'Community Board', 'Borough', 'X Coordinate (State Plane)',
    'Y Coordinate (State Plane)', 'Park Facility Name', 'Park
Borough',
    'School Name', 'School Number', 'School Region', 'School Code',
    'School Phone Number', 'School Address', 'School City', 'School
State',
    'School Zip', 'School Not Found', 'School or Citywide
Complaint',
    'Vehicle Type', 'Taxi Company Borough', 'Taxi Pick Up
Location',
    'Bridge Highway Name', 'Bridge Highway Direction', 'Road Ramp',
    'Bridge Highway Segment', 'Garage Lot Name', 'Ferry Direction',
    'Ferry Terminal Name', 'Latitude', 'Longitude', 'Location'],
dtype='object')

```

```
dataframe1['Complaint Type'].unique()
```

```

array(['Noise - Street/Sidewalk', 'Blocked Driveway', 'Illegal
Parking',
    'Derelict Vehicle', 'Noise - Commercial',
    'Noise - House of Worship', 'Posting Advertisement',
    'Noise - Vehicle', 'Animal Abuse', 'Vending', 'Traffic',
    'Drinking', 'Bike/Roller/Skate Chronic', 'Panhandling',
    'Noise - Park', 'Homeless Encampment', 'Urinating in Public',
    'Graffiti', 'Disorderly Youth', 'Illegal Fireworks',
    'Ferry Complaint', 'Agency Issues', 'Squeegee', 'Animal in a
Park'],
dtype=object)

```

```
dataframe1['Descriptor'].unique()
```

```

array(['Loud Music/Party', 'No Access', 'Commercial Overnight
Parking',
    'Blocked Sidewalk', 'Posted Parking Sign Violation',
    'Blocked Hydrant', 'With License Plate', 'Partial Access',
    'Unauthorized Bus Layover', 'Double Parked Blocking Vehicle',
    'Double Parked Blocking Traffic', 'Vehicle', 'Loud Talking',
    'Banging/Pounding', 'Car/Truck Music', 'Tortured',
    'In Prohibited Area', 'Congestion/Gridlock', 'Neglected',
    'Car/Truck Horn', 'In Public', 'Other (complaint details)',
nan,
    'No Shelter', 'Truck Route Violation', 'Unlicensed',
    'Overnight Commercial Storage', 'Engine Idling',
    'After Hours - Licensed Est', 'Detached Trailer',
    'Underage - Licensed Est', 'Chronic Stoplight Violation',
    'Loud Television', 'Chained', 'Building', 'In Car',
    'Police Report Requested', 'Chronic Speeding',

```

```

        'Playing in Unsuitable Place', 'Drag Racing',
        'Police Report Not Requested', 'Nuisance/Truant', 'Homeless
Issue',
        'Language Access Complaint', 'Disruptive Passenger',
        'Animal Waste'], dtype=object)

#Converting data into correct datetime format
dataframe1['Created Date']=pd.to_datetime(dataframe1['Created Date'])
dataframe1['Closed Date']=pd.to_datetime(dataframe1['Closed Date'])

#Creating the new column that consist the amount of time taken to
resolve the complaint
dataframe1["Request_Closing_Time"]=(dataframe1["Closed Date"]-
dataframe1["Created Date"])

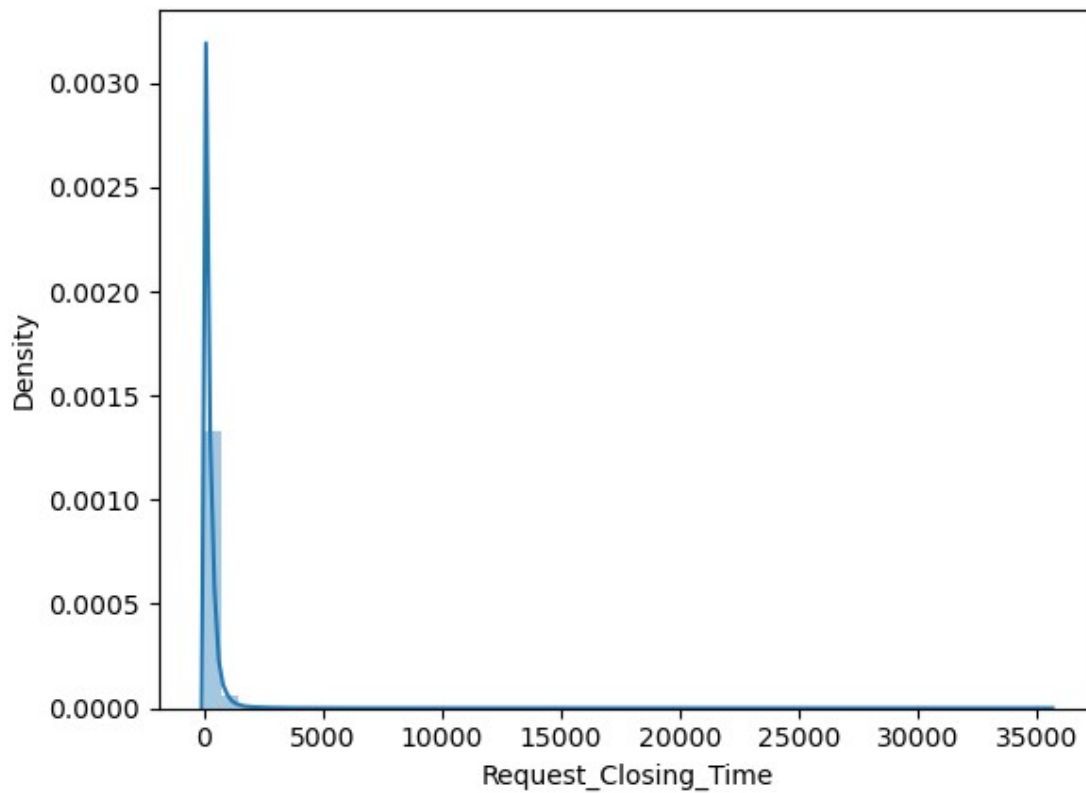
Request_Closing_Time=[]
for x in (dataframe1["Closed Date"]-dataframe1["Created Date"]):
    close=x.total_seconds()/60
    Request_Closing_Time.append(close)

dataframe1["Request_Closing_Time"]=Request_Closing_Time

#Distribution plot for request closing time
#sns.distplot(dataframe1['Request_Closing_Time'])
#plt.show
sns.distplot(dataframe1['Request_Closing_Time'])
plt.show

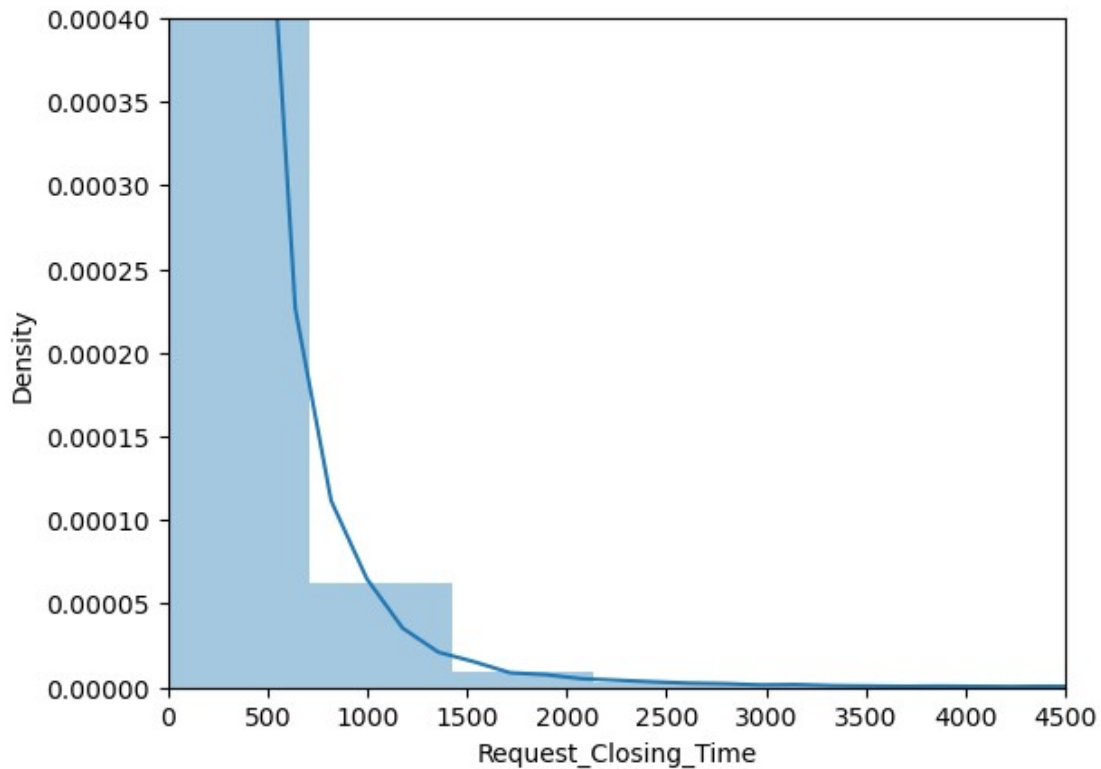
<function matplotlib.pyplot.show(close=None, block=None)>

```



```
#Distribution plot for request closing time
sns.distplot(dataframe1['Request_Closing_Time'])
plt.xlim((0,4500))
plt.ylim((0,0.0004))
plt.show

<function matplotlib.pyplot.show(close=None, block=None)>
```



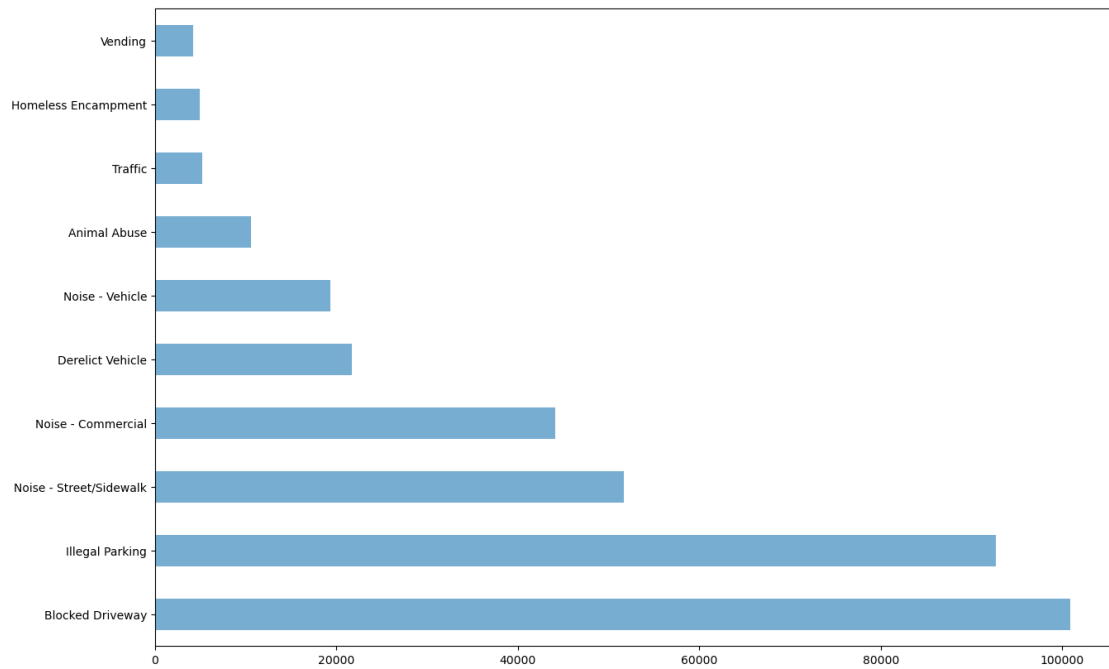
```
Citywisecomplaints =
pd.DataFrame({'count':dataframe1.groupby(['Complaint Type',
'City']).size()}).reset_index()
```

Citywisecomplaints

	Complaint Type	City	count
0	Animal Abuse	ARVERNE	46
1	Animal Abuse	ASTORIA	170
2	Animal Abuse	BAYSIDE	53
3	Animal Abuse	BELLEROSE	15
4	Animal Abuse	BREEZY POINT	2
...
772	Vending	STATEN ISLAND	25
773	Vending	SUNNYSIDE	15
774	Vending	WHITESTONE	1
775	Vending	WOODHAVEN	6
776	Vending	WOODSIDE	15

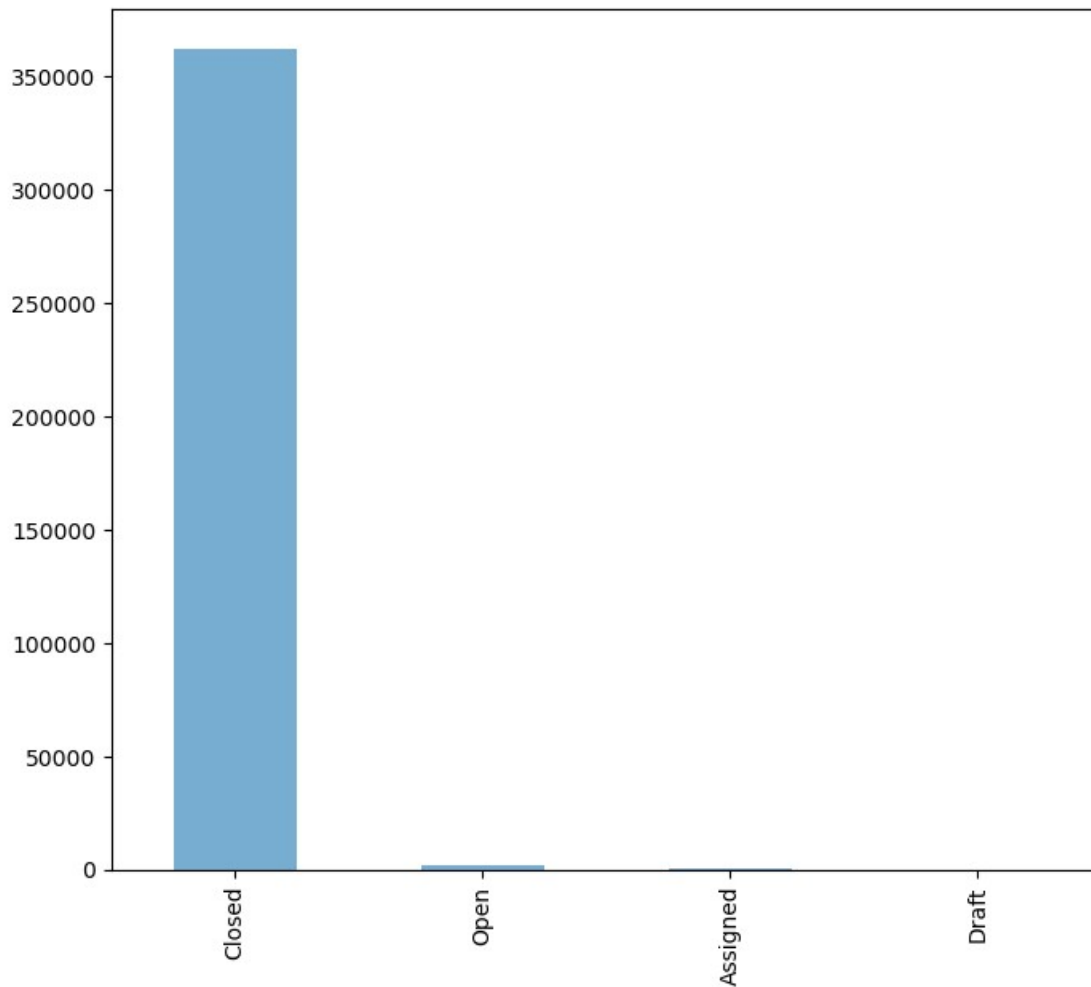
[777 rows x 3 columns]

```
#dataframe1['Complaint Type'].value_counts().head(10).plot(kind
='barh',alpha =0.6,figsize=(5,5));
dataframe1['Complaint
Type'].value_counts().head(10).plot(kind='barh',alpha
=0.6,figsize=(15,10));
```



#Count plot to know the status of the requests

```
dataframe1['Status'].value_counts().plot(kind='bar',alpha=0.6,figsize=(8,7))  
plt.show()
```

```
#majoritycomplaints=dataframe1.dropna(subset=["Complaint Type"])
majoritycomplaints=dataframe1.groupby("Complaint Type")
ComplaintTypesorted = majoritycomplaints.size().sort_values(ascending
= False)
ComplaintTypesorted =
ComplaintTypesorted.to_frame('count').reset_index()
```

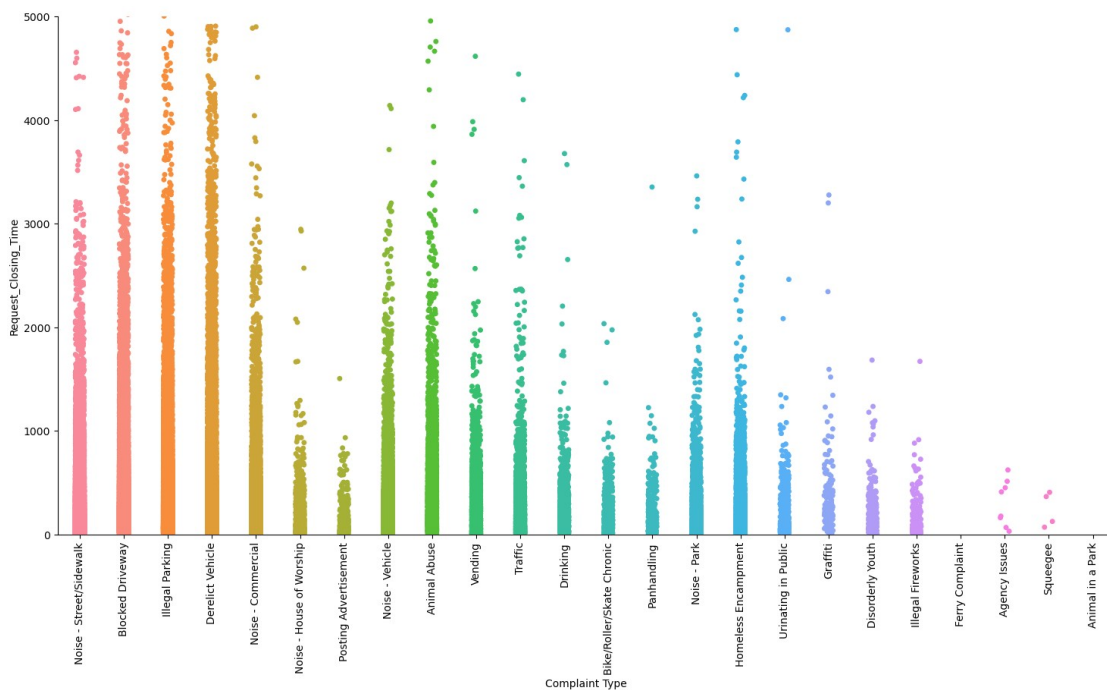
```
ComplaintTypesorted
ComplaintTypesorted.head(20)
```

	Complaint Type	count
0	Blocked Driveway	100881
1	Illegal Parking	92679
2	Noise - Street/Sidewalk	51692
3	Noise - Commercial	44109
4	Derelict Vehicle	21661
5	Noise - Vehicle	19352
6	Animal Abuse	10541
7	Traffic	5198
8	Homeless Encampment	4879

9	Vending	4192
10	Noise - Park	4109
11	Drinking	1409
12	Noise - House of Worship	1070
13	Posting Advertisement	681
14	Urinating in Public	641
15	Bike/Roller/Skate Chronic	478
16	Panhandling	327
17	Disorderly Youth	315
18	Illegal Fireworks	172
19	Graffiti	157

#Categorical scatter plot to understand which type of complaint are taking more time to get resolved

```
scatter=sns.catplot(x='Complaint Type', y='Request_Closing_Time',
data=dataframe1)
scatter.fig.set_figwidth(20)
scatter.fig.set_figheight(8)
plt.xticks(rotation=90)
plt.ylim(0,5000)
plt.show()
```



#Request Closing Time for all location Type sorted in ascending Order

```
pd.DataFrame(dataframe1.groupby('Location Type')
['Request_Closing_Time'].mean()).sort_values('Request_Closing_Time')
```

	Request_Closing_Time
Location Type	
Subway Station	145.120000
Club/Bar/Restaurant	183.492218

House of Worship	190.052861
Store/Commercial	192.928792
Highway	204.372348
Park/Playground	206.594724
Bridge	229.458333
Street/Sidewalk	261.052945
Residential Building	267.260350
Commercial	270.649846
Roadway Tunnel	283.486047
House and Store	291.750204
Parking Lot	296.526747
Residential Building/House	300.233145
Vacant Lot	404.561930
Park	20210.566667
Ferry	NaN
Terminal	NaN

#Request Closing Time for all city sorted in ascending Order

```
pd.DataFrame(dataframe1.groupby('City')
['Request_Closing_Time'].mean()).sort_values('Request_Closing_Time')
```

City	Request_Closing_Time
ARVERNE	137.840605
ROCKAWAY PARK	139.602908
LITTLE NECK	155.031437
OAKLAND GARDENS	156.240167
BAYSIDE	160.062978
FAR ROCKAWAY	161.193068
NEW YORK	175.343723
FLUSHING	177.446478
FOREST HILLS	184.097636
WHITESTONE	187.976467
CORONA	188.984584
COLLEGE POINT	190.393782
JACKSON HEIGHTS	190.885368
ELMHURST	194.108392
FRESH MEADOWS	200.741045
REGO PARK	202.462138
BREEZY POINT	205.197849
EAST ELMHURST	206.801481
CENTRAL PARK	206.921364
STATEN ISLAND	228.038305
BROOKLYN	236.607935
Howard Beach	241.750000
Astoria	242.452302
Long Island City	245.388922
ASTORIA	265.236501
RIDGEWOOD	268.285547
SAINT ALBANS	271.040767
East Elmhurst	273.630556

Woodside	281.455622
KEW GARDENS	283.319775
JAMAICA	305.346459
SOUTH OZONE PARK	308.283046
SOUTH RICHMOND HILL	318.020470
WOODHAVEN	321.714469
RICHMOND HILL	321.749064
MIDDLE VILLAGE	323.290492
OZONE PARK	328.309146
MASPETH	328.997706
HOLLIS	332.061427
HOWARD BEACH	346.959615
BRONX	353.116425
LONG ISLAND CITY	367.326726
SUNNYSIDE	380.744297
WOODSIDE	389.758733
NEW HYDE PARK	423.396512
GLEN OAKS	501.653463
SPRINGFIELD GARDENS	510.113239
CAMBRIA HEIGHTS	542.883117
ROSEDALE	569.194745
BELLEROSE	576.173614
QUEENS VILLAGE	593.920472
FLORAL PARK	609.812160
QUEENS	717.171171

dataframe1.isna().sum()

Unique Key	0
Created Date	0
Closed Date	2381
Agency	0
Agency Name	0
Complaint Type	0
Descriptor	6501
Location Type	133
Incident Zip	2998
Incident Address	51699
Street Name	51699
Cross Street 1	57188
Cross Street 2	57805
Intersection Street 1	313438
Intersection Street 2	314046
Address Type	3252
City	2997
Landmark	364183
Facility Type	2389
Status	0
Due Date	3
Resolution Description	0
Resolution Action Updated Date	2402

Community Board	0
Borough	0
X Coordinate (State Plane)	4030
Y Coordinate (State Plane)	4030
Park Facility Name	0
Park Borough	0
School Name	0
School Number	0
School Region	1
School Code	1
School Phone Number	0
School Address	0
School City	0
School State	0
School Zip	1
School Not Found	0
School or Citywide Complaint	364558
Vehicle Type	364558
Taxi Company Borough	364558
Taxi Pick Up Location	364558
Bridge Highway Name	364261
Bridge Highway Direction	364261
Road Ramp	364296
Bridge Highway Segment	364296
Garage Lot Name	364558
Ferry Direction	364557
Ferry Terminal Name	364556
Latitude	4030
Longitude	4030
Location	4030
Request_Closing_Time	2381
dtype: int64	

```
dataframe1['City'].dropna(inplace=True)
```

```
dataframe1.isna().sum()
```

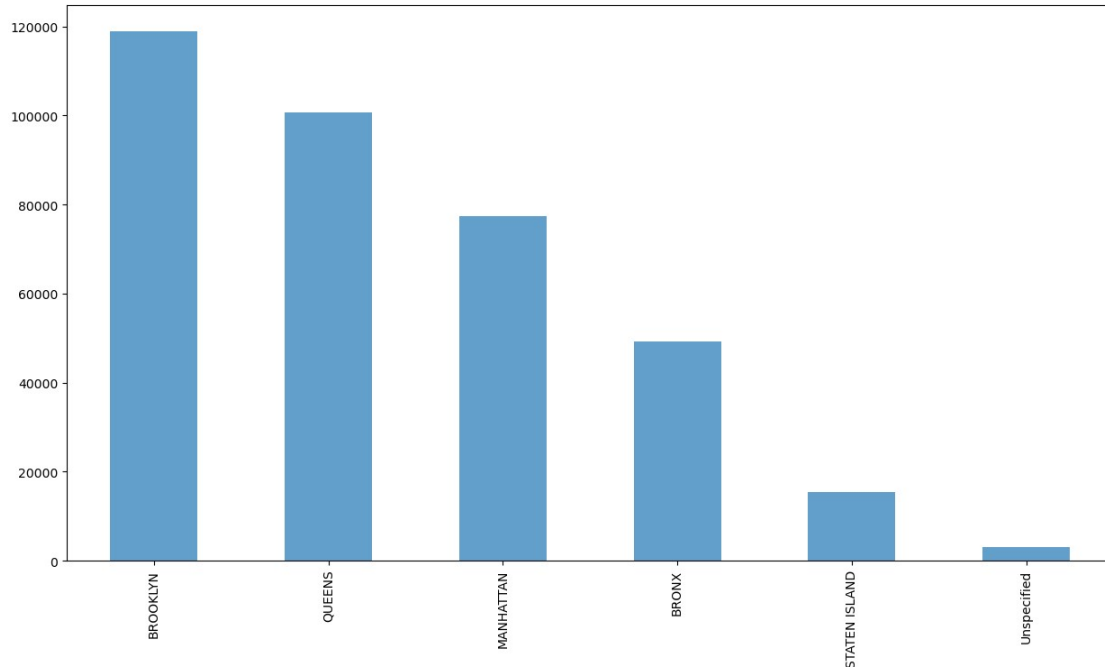
Unique Key	0
Created Date	0
Closed Date	2381
Agency	0
Agency Name	0
Complaint Type	0
Descriptor	6501
Location Type	133
Incident Zip	2998
Incident Address	51699
Street Name	51699
Cross Street 1	57188
Cross Street 2	57805
Intersection Street 1	313438

Intersection Street 2	314046
Address Type	3252
City	2997
Landmark	364183
Facility Type	2389
Status	0
Due Date	3
Resolution Description	0
Resolution Action Updated Date	2402
Community Board	0
Borough	0
X Coordinate (State Plane)	4030
Y Coordinate (State Plane)	4030
Park Facility Name	0
Park Borough	0
School Name	0
School Number	0
School Region	1
School Code	1
School Phone Number	0
School Address	0
School City	0
School State	0
School Zip	1
School Not Found	0
School or Citywide Complaint	364558
Vehicle Type	364558
Taxi Company Borough	364558
Taxi Pick Up Location	364558
Bridge Highway Name	364261
Bridge Highway Direction	364261
Road Ramp	364296
Bridge Highway Segment	364296
Garage Lot Name	364558
Ferry Direction	364557
Ferry Terminal Name	364556
Latitude	4030
Longitude	4030
Location	4030
Request_Closing_Time	2381
dtype: int64	

```

#Count Plot for Coloumn Borough
#plt.figure(figsize=(15,8))
dataframe1['Borough'].value_counts().plot(kind='bar', alpha=0.7,
figsize=(15,8))
plt.show()

```



```
dataframe1['Borough'].unique()
array(['MANHATTAN', 'QUEENS', 'BRONX', 'BROOKLYN', 'Unspecified',
      'STATEN ISLAND'], dtype=object)
```

```
Complaints_Borough =
pd.DataFrame({'count':dataframe1.groupby(['Complaint Type',
'Borough']).size()}).reset_index()
```

```
Complaints_Borough
```

	Complaint Type	Borough	count
0	Agency Issues	Unspecified	8
1	Animal Abuse	BRONX	1971
2	Animal Abuse	BROOKLYN	3191
3	Animal Abuse	MANHATTAN	1941
4	Animal Abuse	QUEENS	2640
...
114	Vending	BROOKLYN	575
115	Vending	MANHATTAN	2639
116	Vending	QUEENS	513
117	Vending	STATEN ISLAND	25
118	Vending	Unspecified	7

```
[119 rows x 3 columns]
```

```
#Percentage of cases in each Borough
for x in dataframe1["Borough"].unique():
    print("Percentage of Request from ",x ,
          (dataframe1["Borough"]==x).sum()/len(dataframe1)*100)
```

Percentage of Request from MANHATTAN 21.24819644610734
 Percentage of Request from QUEENS 27.640594912195045
 Percentage of Request from BRONX 13.48729145979515
 Percentage of Request from BROOKLYN 32.60496272198114
 Percentage of Request from Unspecified 0.8113935231156633
 Percentage of Request from STATEN ISLAND 4.207560936805666

dataframe1.head(10)

	Unique Key	Created Date	Closed Date	Agency	\
0	32310363	2015-12-31 23:59:45	2016-01-01 00:55:15	NYPD	
1	32309934	2015-12-31 23:59:44	2016-01-01 01:26:57	NYPD	
2	32309159	2015-12-31 23:59:29	2016-01-01 04:51:03	NYPD	
3	32305098	2015-12-31 23:57:46	2016-01-01 07:43:13	NYPD	
4	32306529	2015-12-31 23:56:58	2016-01-01 03:24:42	NYPD	
5	32306554	2015-12-31 23:56:30	2016-01-01 01:50:11	NYPD	
6	32306559	2015-12-31 23:55:32	2016-01-01 01:53:54	NYPD	
7	32307009	2015-12-31 23:54:05	2016-01-01 01:42:54	NYPD	
8	32308581	2015-12-31 23:53:58	2016-01-01 08:27:32	NYPD	
9	32308391	2015-12-31 23:53:58	2016-01-01 01:17:40	NYPD	

	Agency Name	Complaint Type	\
0	New York City Police Department	Noise - Street/Sidewalk	
1	New York City Police Department	Blocked Driveway	
2	New York City Police Department	Blocked Driveway	
3	New York City Police Department	Illegal Parking	
4	New York City Police Department	Illegal Parking	
5	New York City Police Department	Illegal Parking	
6	New York City Police Department	Illegal Parking	
7	New York City Police Department	Blocked Driveway	
8	New York City Police Department	Illegal Parking	
9	New York City Police Department	Blocked Driveway	

	Descriptor	Location Type	Incident Zip	\
0	Loud Music/Party	Street/Sidewalk	10034.0	
1	No Access	Street/Sidewalk	11105.0	
2	No Access	Street/Sidewalk	10458.0	
3	Commercial Overnight Parking	Street/Sidewalk	10461.0	
4	Blocked Sidewalk	Street/Sidewalk	11373.0	
5	Posted Parking Sign Violation	Street/Sidewalk	11215.0	
6	Blocked Hydrant	Street/Sidewalk	10032.0	
7	No Access	Street/Sidewalk	10457.0	
8	Posted Parking Sign Violation	Street/Sidewalk	11415.0	
9	No Access	Street/Sidewalk	11219.0	

	Incident Address	...	Bridge Highway Direction	Road Ramp	\
0	71 VERMILYEA AVENUE	...	NaN	NaN	
1	27-07 23 AVENUE	...	NaN	NaN	
2	2897 VALENTINE AVENUE	...	NaN	NaN	
3	2940 BAISLEY AVENUE	...	NaN	NaN	

4	87-14 57 ROAD	...	NaN	NaN
5	260 21 STREET	...	NaN	NaN
6	524 WEST 169 STREET	...	NaN	NaN
7	501 EAST 171 STREET	...	NaN	NaN
8	83-44 LEFFERTS BOULEVARD	...	NaN	NaN
9	1408 66 STREET	...	NaN	NaN

Bridge Highway Segment	Garage Lot Name	Ferry Direction	Ferry
Terminal Name \			
0	NaN	NaN	NaN
NaN			
1	NaN	NaN	NaN
NaN			
2	NaN	NaN	NaN
NaN			
3	NaN	NaN	NaN
NaN			
4	NaN	NaN	NaN
NaN			
5	NaN	NaN	NaN
NaN			
6	NaN	NaN	NaN
NaN			
7	NaN	NaN	NaN
NaN			
8	NaN	NaN	NaN
NaN			
9	NaN	NaN	NaN
NaN			

Latitude	Longitude	Location \
0 40.865682	-73.923501	(40.86568153633767, -73.92350095571744)
1 40.775945	-73.915094	(40.775945312321085, -73.91509393898605)
2 40.870325	-73.888525	(40.870324522111424, -73.88852464418646)
3 40.835994	-73.828379	(40.83599404683083, -73.82837939584206)
4 40.733060	-73.874170	(40.733059618956815, -73.87416975810375)
5 40.660823	-73.992568	(40.66082272389114, -73.99256786342693)
6 40.840848	-73.937375	(40.840847591440415, -73.9373750864581)
7 40.837503	-73.902905	(40.83750262540012, -73.90290517326568)
8 40.704977	-73.832605	(40.704977164399935, -73.8326047502584)
9 40.623793	-73.999539	(40.623793065806524, -73.99953890121567)

Request_Closing_Time
0 55.500000
1 87.216667
2 291.566667
3 465.450000
4 207.733333
5 113.683333
6 118.366667

```
7          108.816667
8          513.566667
9           83.700000
```

```
[10 rows x 54 columns]
```

```
#Remove the column with very high percentage of missing value
```

```
new_dataframe2=dataframe1.loc[:,(dataframe1.isnull().sum()/dataframe1.  
shape[0]*100)<=50]
```

```
print("Shape of Old DataFrame set :",dataframe1.shape)
```

```
print("Shape of New DataFrame set : ",new_dataframe2.shape)
```

```
Shape of Old DataFrame set : (364558, 54)
```

```
Shape of New DataFrame set : (364558, 40)
```

```
rem=[]
```

```
for x in new_dataframe2.columns.tolist():
```

```
    if new_dataframe2[x].nunique()<=3:
```

```
        print(x+ " "*10+ " : ",new_dataframe2[x].unique())
```

```
        rem.append(x)
```

```
Agency          : ['NYPD']
```

```
Agency Name     : ['New York City Police Department' 'NYPD'  
'Internal Affairs Bureau']
```

```
Facility Type    : ['Precinct' nan]
```

```
Park Facility Name : ['Unspecified' 'Alley Pond Park -  
Nature Center']
```

```
School Name      : ['Unspecified' 'Alley Pond Park - Nature  
Center']
```

```
School Number    : ['Unspecified' 'Q001']
```

```
School Region    : ['Unspecified' nan]
```

```
School Code      : ['Unspecified' nan]
```

```
School Phone Number : ['Unspecified' '7182176034']
```

```
School Address   : ['Unspecified' 'Grand Central Parkway,  
near the soccer field']
```

```
School City      : ['Unspecified' 'QUEENS']
```

```
School State     : ['Unspecified' 'NY']
```

```
School Zip       : ['Unspecified' nan]
```

```
School Not Found : ['N']
```

```
new_dataframe2.drop(rem,axis=1,inplace=True)
```

```
new_dataframe2.shape
```

```
(364558, 26)
```

```
new_dataframe2.head(15)
```

```
      Unique Key      Created Date      Closed Date \
0      32310363  2015-12-31 23:59:45  2016-01-01 00:55:15
1      32309934  2015-12-31 23:59:44  2016-01-01 01:26:57
```

2	32309159	2015-12-31	23:59:29	2016-01-01	04:51:03
3	32305098	2015-12-31	23:57:46	2016-01-01	07:43:13
4	32306529	2015-12-31	23:56:58	2016-01-01	03:24:42
5	32306554	2015-12-31	23:56:30	2016-01-01	01:50:11
6	32306559	2015-12-31	23:55:32	2016-01-01	01:53:54
7	32307009	2015-12-31	23:54:05	2016-01-01	01:42:54
8	32308581	2015-12-31	23:53:58	2016-01-01	08:27:32
9	32308391	2015-12-31	23:53:58	2016-01-01	01:17:40
10	32305071	2015-12-31	23:52:58	2016-01-01	07:41:38
11	32306260	2015-12-31	23:50:57	2016-01-01	10:58:08
12	32306612	2015-12-31	23:48:03	2016-01-01	02:17:59
13	32305074	2015-12-31	23:47:58	2016-01-01	08:18:47
14	32309424	2015-12-31	23:47:37	2016-01-01	10:17:22

Type \	Complaint Type	Descriptor	Location
0	Noise - Street/Sidewalk	Loud Music/Party	Street/Sidewalk
1	Blocked Driveway	No Access	Street/Sidewalk
2	Blocked Driveway	No Access	Street/Sidewalk
3	Illegal Parking	Commercial Overnight Parking	Street/Sidewalk
4	Illegal Parking	Blocked Sidewalk	Street/Sidewalk
5	Illegal Parking	Posted Parking Sign Violation	Street/Sidewalk
6	Illegal Parking	Blocked Hydrant	Street/Sidewalk
7	Blocked Driveway	No Access	Street/Sidewalk
8	Illegal Parking	Posted Parking Sign Violation	Street/Sidewalk
9	Blocked Driveway	No Access	Street/Sidewalk
10	Blocked Driveway	No Access	Street/Sidewalk
11	Blocked Driveway	No Access	Street/Sidewalk
12	Noise - Street/Sidewalk	Loud Music/Party	Street/Sidewalk
13	Illegal Parking	Posted Parking Sign Violation	Street/Sidewalk
14	Derelect Vehicle	With License Plate	Street/Sidewalk

	Incident Zip	Incident Address	Street Name \
0	10034.0	71 VERMILYEA AVENUE	VERMILYEA AVENUE
1	11105.0	27-07 23 AVENUE	23 AVENUE

2	10458.0	2897 VALENTINE AVENUE	VALENTINE AVENUE
3	10461.0	2940 BAISLEY AVENUE	BAISLEY AVENUE
4	11373.0	87-14 57 ROAD	57 ROAD
5	11215.0	260 21 STREET	21 STREET
6	10032.0	524 WEST 169 STREET	WEST 169 STREET
7	10457.0	501 EAST 171 STREET	EAST 171 STREET
8	11415.0	83-44 LEFFERTS BOULEVARD	LEFFERTS BOULEVARD
9	11219.0	1408 66 STREET	66 STREET
10	11372.0	34-06 73 STREET	73 STREET
11	10453.0	1770 UNDERCLIFF AVENUE	UNDERCLIFF AVENUE
12	10461.0	1701 PILGRIM AVENUE	PILGRIM AVENUE
13	11208.0	38 COX PLACE	COX PLACE
14	11379.0	62-13 62 AVENUE	62 AVENUE

	Cross Street 1	...	Resolution Action	Updated Date	Community
Board \					
0	ACADEMY STREET	...	01/01/2016 12:55:15 AM	12	
MANHATTAN					
1	27 STREET	...	01/01/2016 01:26:57 AM	01	
QUEENS					
2	EAST 198 STREET	...	01/01/2016 04:51:03 AM	07	
BRONX					
3	EDISON AVENUE	...	01/01/2016 07:43:13 AM	10	
BRONX					
4	SEABURY STREET	...	01/01/2016 03:24:42 AM	04	
QUEENS					
5	5 AVENUE	...	01/01/2016 01:50:11 AM	07	
BROOKLYN					
6	AMSTERDAM AVENUE	...	01/01/2016 01:53:54 AM	12	
MANHATTAN					
7	WASHINGTON AVENUE	...	01/01/2016 01:42:54 AM	03	
BRONX					
8	BEND	...	01/01/2016 08:27:32 AM	09	
QUEENS					
9	14 AVENUE	...	01/01/2016 01:17:40 AM	11	
BROOKLYN					
10	34 AVENUE	...	01/01/2016 07:41:38 AM	03	
QUEENS					
11	WEST 176 STREET	...	01/01/2016 10:58:08 AM	05	
BRONX					
12	ROBERTS AVENUE	...	01/01/2016 02:18:00 AM	10	
BRONX					
13	CRESCENT STREET	...	01/01/2016 08:18:47 AM	05	
BROOKLYN					
14	62 STREET	...	01/01/2016 10:17:03 AM	05	
QUEENS					

	Borough	X Coordinate (State Plane)	Y Coordinate (State Plane)	\
0	MANHATTAN	1005409.0	254678.0	
1	QUEENS	1007766.0	221986.0	

2	BRONX	1015081.0	256380.0
3	BRONX	1031740.0	243899.0
4	QUEENS	1019123.0	206375.0
5	BROOKLYN	986312.0	180032.0
6	MANHATTAN	1001578.0	245627.0
7	BRONX	1011117.0	244417.0
8	QUEENS	1030662.0	196163.0
9	BROOKLYN	984378.0	166541.0
10	QUEENS	1013795.0	213487.0
11	BRONX	1006383.0	249532.0
12	BRONX	1030293.0	247376.0
13	BROOKLYN	1019054.0	189780.0
14	QUEENS	1012143.0	199456.0

	Park Borough	Latitude	Longitude	\
0	MANHATTAN	40.865682	-73.923501	
1	QUEENS	40.775945	-73.915094	
2	BRONX	40.870325	-73.888525	
3	BRONX	40.835994	-73.828379	
4	QUEENS	40.733060	-73.874170	
5	BROOKLYN	40.660823	-73.992568	
6	MANHATTAN	40.840848	-73.937375	
7	BRONX	40.837503	-73.902905	
8	QUEENS	40.704977	-73.832605	
9	BROOKLYN	40.623793	-73.999539	
10	QUEENS	40.752600	-73.893363	
11	BRONX	40.851555	-73.919997	
12	BRONX	40.845545	-73.833585	
13	BROOKLYN	40.687511	-73.874505	
14	QUEENS	40.714093	-73.899384	

	Location	Request_Closing_Time
0	(40.86568153633767, -73.92350095571744)	55.500000
1	(40.775945312321085, -73.91509393898605)	87.216667
2	(40.870324522111424, -73.88852464418646)	291.566667
3	(40.83599404683083, -73.82837939584206)	465.450000
4	(40.733059618956815, -73.87416975810375)	207.733333
5	(40.66082272389114, -73.99256786342693)	113.683333
6	(40.840847591440415, -73.9373750864581)	118.366667
7	(40.83750262540012, -73.90290517326568)	108.816667
8	(40.704977164399935, -73.8326047502584)	513.566667
9	(40.623793065806524, -73.99953890121567)	83.700000
10	(40.752599671969676, -73.8933632141368)	468.666667
11	(40.85155492779258, -73.91999651358469)	667.183333
12	(40.845545043640215, -73.83358471831198)	149.933333
13	(40.68751060232221, -73.87450451131276)	510.816667
14	(40.71409341858147, -73.89938394187791)	629.750000

[15 rows x 26 columns]

