```
#MADE BY RAHUL AKKEM
# imports all libraries desired
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sbn
```

The data sheet being read contains crime cases that occur in the city of Boston. This set of data is extremely impor in when criminal commit illegal activity, Police can better respond and better allocate their resources. Society in ger most cautious about illegal activities occuring. Overall, I believe this data is extremely important to analyze because

The data sheet(.csv file) contains the criminal records and proceeding that occured in the city of Boston. This sheet activity occurred, the time at which it occurred, and the case number between the time frame of June 14th 2015 an by taking the Boston police records and compiling it into a .csv file. The types of limitations this data set provides is assailants so then it could be understood what ages are more susceptible to commit illegal activities.Overall this is

```
crimes = pd.read_excel('crime.xlsx')
# reads in the file and all data within it
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```
crimes.head() # displays the first five rows of the data file for viewing
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	INCIDENT_NUMBER	OFFENSE_CODE	OFFENSE_CODE_GROUP	OFFENSE_DESCRIPTION	DISTRICT	R
0	I182070945	619	Larceny	LARCENY ALL OTHERS	D14	
1	I182070943	1402	Vandalism	VANDALISM	C11	
2	I182070941	3410	Towed	TOWED MOTOR VEHICLE	D4	
3	I182070940	3114	Investigate Property	INVESTIGATE PROPERTY	D4	
4	I182070938	3114	Investigate Property	INVESTIGATE PROPERTY	B3	

```
offense=crimes.loc[:,'OFFENSE_CODE_GROUP']
off_li=pd.Series.tolist(offense) # takes inn the list of offense types
i=0
l=[]
cou=[]

# below filters out the number of offsense of a certain type that occurred
while i<len(offense):
  ty=off_li[i]
  if l.count(ty)>0:
    i+=1
    continue
  counter=off_li.count(ty)
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    cou.append(counter)
    l.append(ty)
    i+=1

# second variable initiation
j=0
mx_p=[]
max_v=[]

# below while loop filters out the top 5 most number fo crimes that occured from
# list made above
while j<len(cou):
  len_p=len(mx_p)
  if len_p==5:
    break
  ma=max(cou)
  max_v.append(ma)
  max_pos=cou.index(ma)
  mx_p.append(max_pos)
  cou[max_pos]=0
  j+=1



y_pos = np.arange(len(mx_p)) # finds the length of list

len_arr=0
y_lbls=[]
while len_arr<len(mx_p):
  val_p=mx_p[len_arr]
  y_lbls.append(l[val_p])
  len_arr+=1
#plt.bar(y_pos, counter)
plt.rcParams['figure.figsize']=(8,8)
#plt.xticks(y_pos, l)
#plt.xlim((0,max(cou)))
 # plots the figure of as a bar plot as top 5 most crimes that occured
fig, ax = plt.subplots()
ax.barh(y_pos, max_v,)
ax.set_yticks(y_pos)
ax.set_yticklabels(y_lbls)
plt.title('Top 5 crimes by number of Incidences in Boston')
plt.xlabel('Number of Instances')
plt.ylabel('Crimes')
# below if figure label and description
fig.text(0.5, -0.1, ' Figure 1: This figure depicts the top 5 crimes that happen in the Boston area
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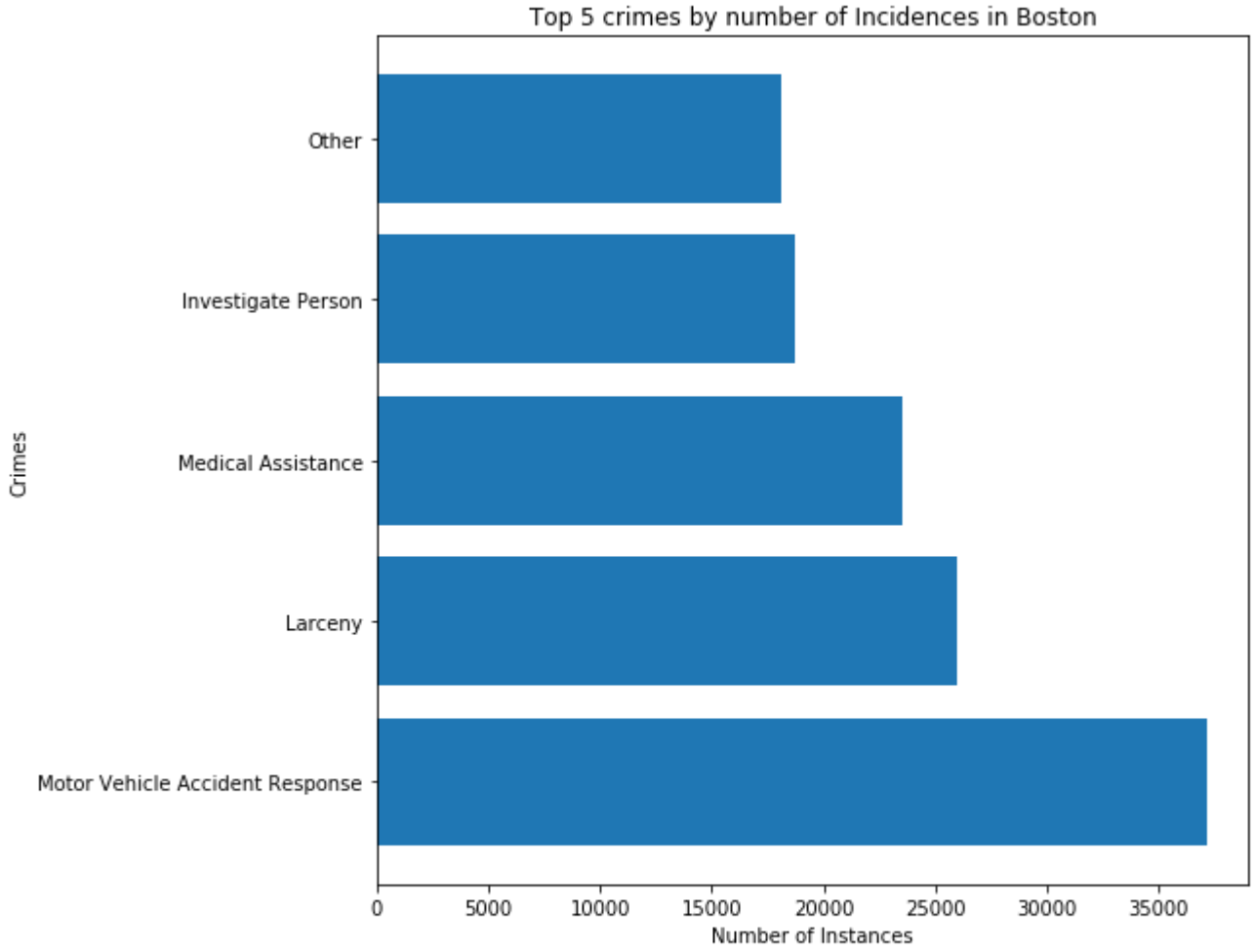


```
t_h=crimes.loc[:,'HOUR'] # filters list by hour
time_c=pd.Series.tolist(t_h)
l_hour=[]
cou_l=[]
h_y=0
while h_y<24: # counts to 24 for finding number of occurances by hour
  counting=time_c.count(h_y)
  cou_l.append(counting)
  l_hour.append(h_y)
  h_y+=1


fig = plt.figure() # plots the number of occurance per hour by number
ax = plt.axes()
ax.plot(l_hour, cou_l,'g*-')

# axis and desctiption labels
plt.title('Boston trend for number of incidences at time of day 0-23 hours')
plt.xlabel('Time of Day')
plt.ylabel('Number of Instances')
fig.text(.5, -.1, ' Figure 2: This figure depicts the the number of incidences within the day over t
```

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Text(0.5, -0.1, ' Figure 2: This figure depicts the the number of incidences within the
```

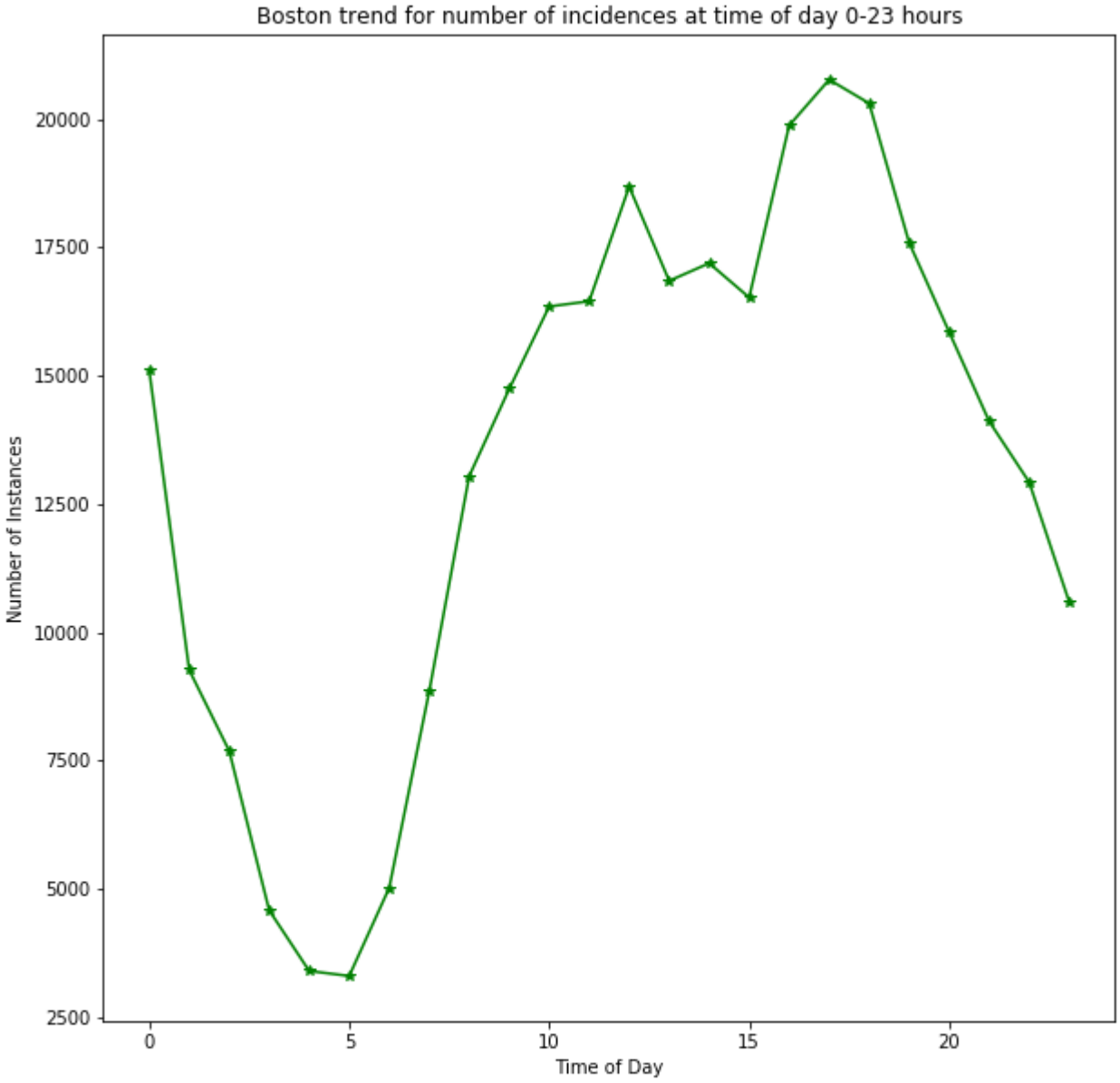

Figure 2: This figure depicts the the number of incidences within the day over the span of data collection.
This plot shows that the most number of criminal activities occure later in the day, where the most number happens between 4pm-6
least number of incidences happened at 4-5 am