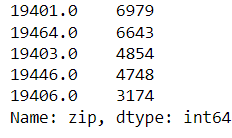
1. From the given emergency calls data set import the excel file and answer the following questions:

[emergency calls.csv](file:///D:\iamneo\gautham%20-%20basic%20python%20and%20eda\emergency%20calls.csv)

1. Which five zip codes receive the most emergency calls?

Expected result:



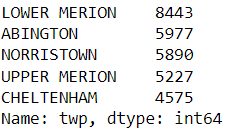
Solution:

df = pd.read\_csv(r"##path of the file (emergency calls )”)

df['zip'].value\_counts().head()

1. Which five towns receive the most emergency calls?

Expected result:



Solution:

df['twp'].value\_counts().head()

1. Display the number of unique title.

Expected result:



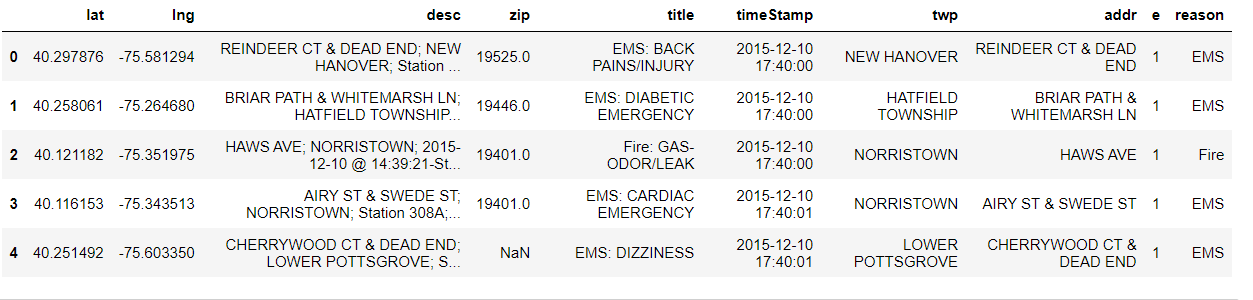
Solution:

df["title"].nunique()

d. "Reasons/Departments" are included in the titles column before the title code. These are traffic, fire, and EMS. The reason given in titles should be added to a new column named "Reason."

For example title given as {'EMS: BACK PAINS/INJURY'} in this ems is the reason and it should be added in the reason column.

Expected value:



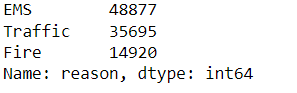
Solution:

df['reason'] = df['title'].apply(lambda title : title.split(":")[0])

df.head()

1. Display the count of each reason.

Expected result:

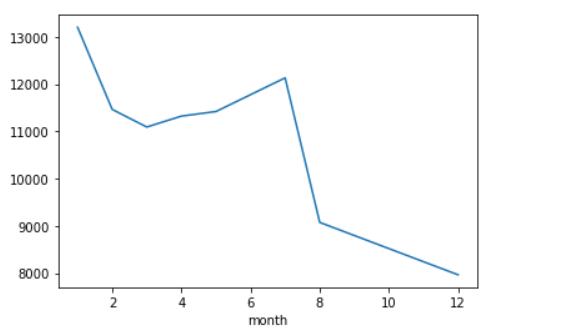


Solution:

df['reason'].value\_counts()

1. Make a simple plot showing the number of calls made each month based on the dataframe.

Expected result:



Solution:

df['timeStamp'] = pd.to\_datetime(df['timeStamp'])

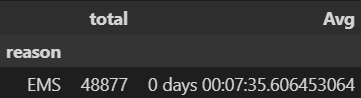
df['month'] = df['timeStamp'].apply(lambda time : time.month)

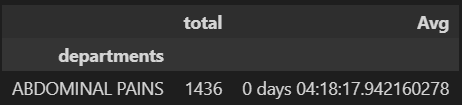
bymonth = df.groupby('month').count()

bymonth['twp'].plot()

1. For which reason and department it have received frequent calls.

Expected result:





Solution:

pd.DataFrame(df.groupby('reason')['timeStamp'].agg(total='count',Avg=lambda group: group.sort\_values().diff().mean())).head(1)

pd.DataFrame(df.groupby('departments')['timeStamp'].agg(total='count',Avg=lambda group: group.sort\_values().diff().mean())).head(1)

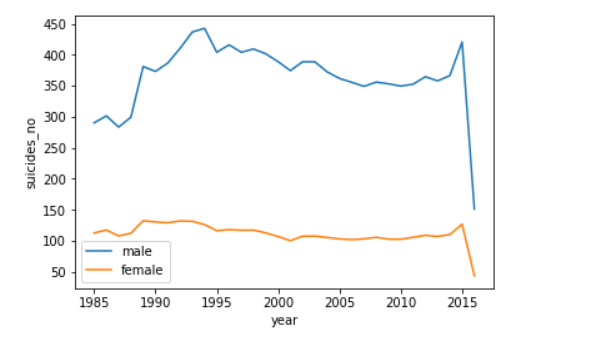
1. From the given suicide report data set analyse and answer the following questions

[suicide report.csv](file:///D:\iamneo\gautham%20-%20basic%20python%20and%20eda\suicide%20report.csv)

1. Which gender reports more suicides over years and display a line plot to justify your answer?

Expected result:

Higher suicides rate – male



Solution:

import seaborn as sns

import matplotlib.pyplot as plt

import numpy as np

import pandas as pd

# creating dataframe

df = pd.read\_csv('#file location')

df\_men = df[df.sex == "male"]

df\_women = df[df.sex == "female"]

sns.lineplot(df\_men.year, df.suicides\_no, ci = None)

sns.lineplot(df\_women.year, df.suicides\_no, ci = None)

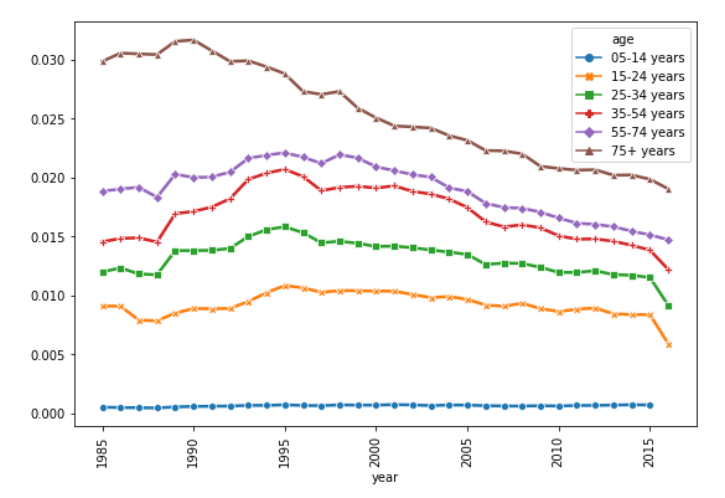
plt.legend(["male", 'female'])

plt.show()

1. Which age group reports more suicides over years and display a line plot to justify your answer?

Expected result:

Suicide rate is proportional to age.



Solution:

df\_age = df.groupby(["year","age"])["suicides\_no", "population"].sum()

df\_reset = df\_age.copy().reset\_index()

plt.figure(figsize=(9,6))

sns.lineplot("year", df\_reset.suicides\_no\*100/df\_reset.population, hue = "age",

data = df\_reset, linewidth = 2.5, style = "age", markers=True

, dashes=False)

plt.xticks(rotation = 90)

plt.show()