Data Visualizations in Data Science using Python(Line Plot & Important Matplotlib Functions ,Bar plot ,Histogram and density plots, Scatter plot, User Funnels).ipynb

```
import pandas as pd
import matplotlib.pyplot as plt
data = pd.read_csv('Instagram data.csv',encoding="latin-1")
print(data.head())
```

```
   Impressions  From Home  From Hashtags  From Explore  From Other  Saves  \
0         3920       2586           1028           619          56     98
1         5394       2727           1838          1174          78    194
2         4021       2085           1188             0         533     41
3         4528       2700            621           932          73    172
4         2518       1704            255           279          37     96

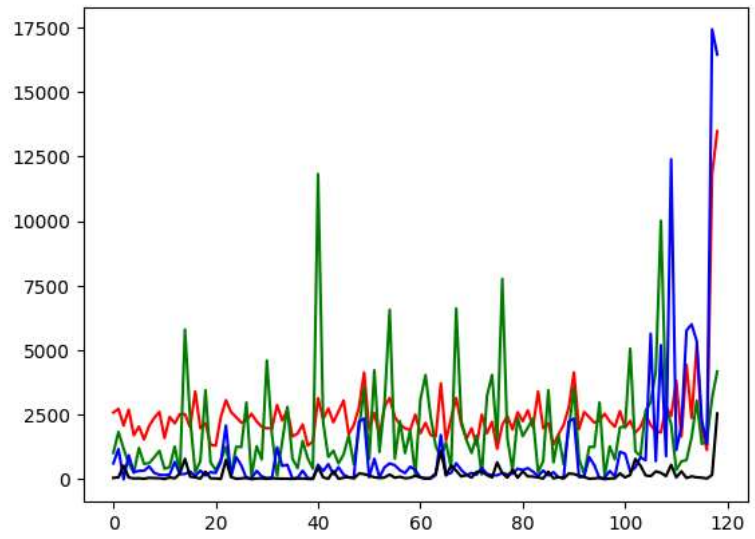
   Comments  Shares  Likes  Profile Visits  Follows  \
0         9       5    162              35        2
1         7      14    224              48       10
2        11       1    131              62       12
3        10       7    213              23        8
4         5       4    123               8        0

                                         Caption  \
0  Here are some of the most important data visua...
1  Here are some of the best data science project...
2  Learn how to train a machine learning model an...
3  Here□s how you can write a Python program to d...
4  Plotting annotations while visualizing your da...

                                        Hashtags
0  #finance #money #business #investing #investme...
1  #healthcare #health #covid #data #datascience ...
2  #data #datascience #dataanalysis #dataanalytic...
3  #python #pythonprogramming #pythonprojects #py...
4  #datavisualization #datascience #data #dataana...
```

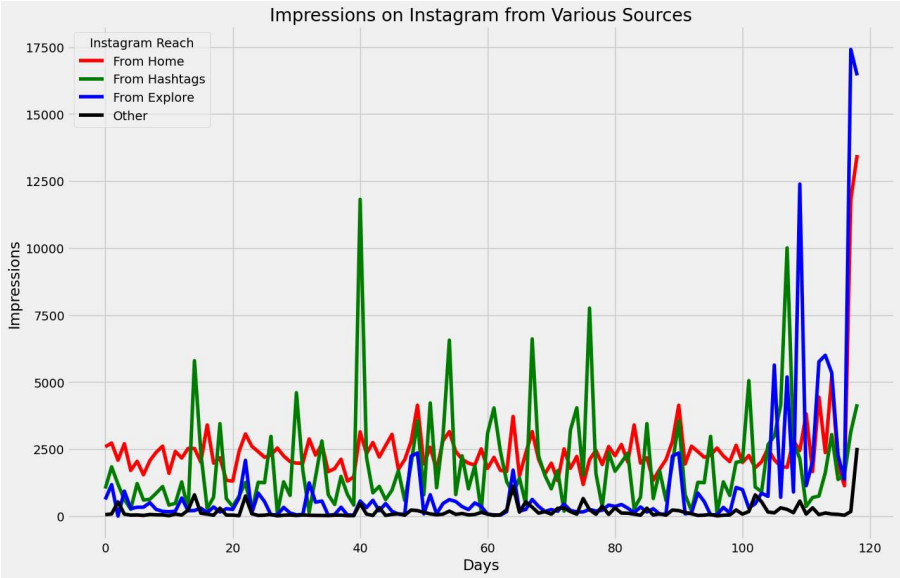
line plot

```
# Creating a Line Plot
plt.plot(data["From Home"], "-r", label="From Home")
plt.plot(data["From Hashtags"], "-g", label="From Hashtags")
plt.plot(data["From Explore"], "-b", label="From Explore")
plt.plot(data["From Other"], "-k", label="Other")
plt.show()
```



matplot

```
plt.style.use('fivethirtyeight')
plt.figure(figsize=(15, 10))
plt.plot(data["From Home"], "-r", label="From Home")
plt.plot(data["From Hashtags"], "-g", label="From Hashtags")
plt.plot(data["From Explore"], "-b", label="From Explore")
plt.plot(data["From Other"], "-k", label="Other")
plt.title("Impressions on Instagram from Various Sources")
plt.xlabel("Days")
plt.ylabel("Impressions")
plt.legend(title="Instagram Reach")
plt.show()
```



Bar plot

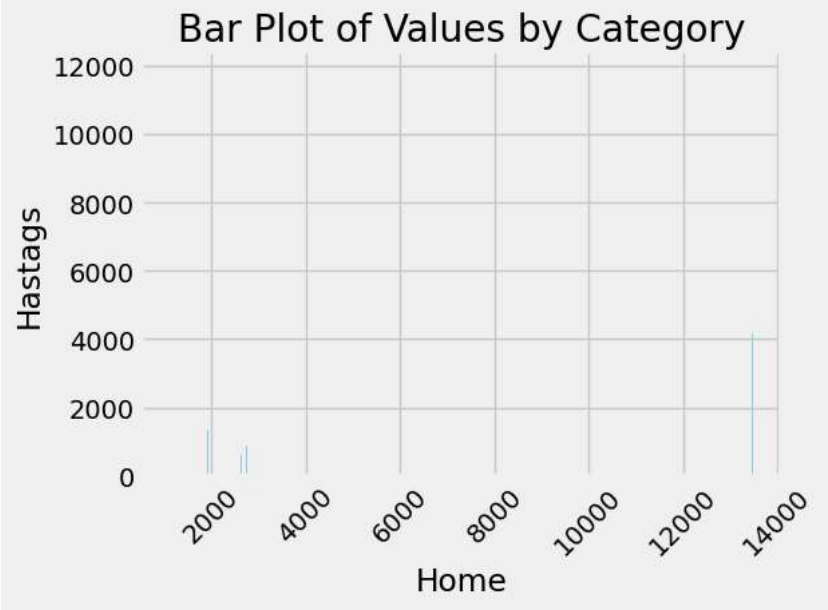
```
import pandas as pd
import matplotlib.pyplot as plt
data = pd.read_csv('Instagram data.csv',encoding="latin-1")

Home = data['From Home']
Hastags = data['From Hashtags']

plt.bar(Home, Hastags,color='skyblue')

plt.xlabel('Home')
plt.ylabel('Hastags')
plt.title('Bar Plot of Values by Category')

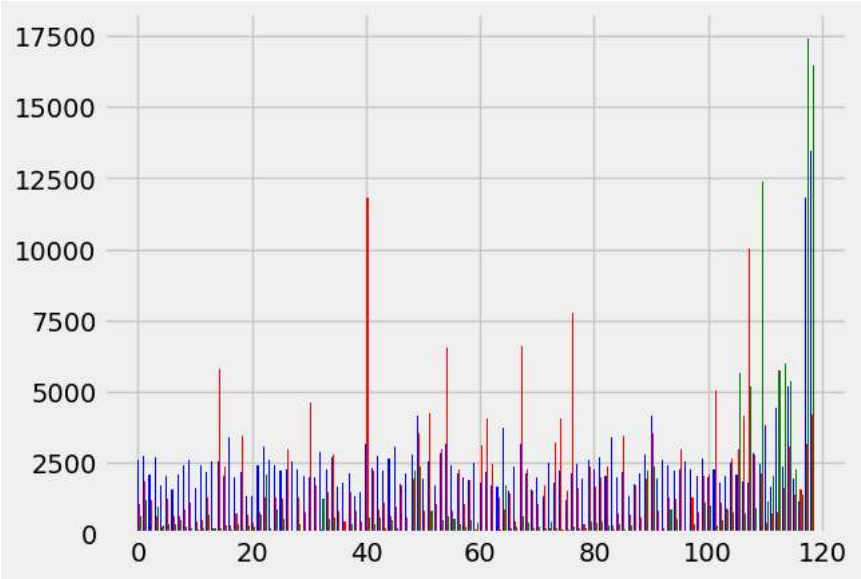
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
```




```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

data = pd.read_csv('Instagram data.csv', encoding="latin-1")


x = np.arange(len(data))
plt.bar(x + 0.00, data['From Home'], color='b', width=0.25)
plt.bar(x + 0.25, data['From Hashtags'], color='r', width=0.25)
plt.bar(x + 0.50, data['From Explore'], color='g', width=0.25)
plt.show()
```




```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

data = pd.read_csv('Instagram data.csv', encoding="latin-1")

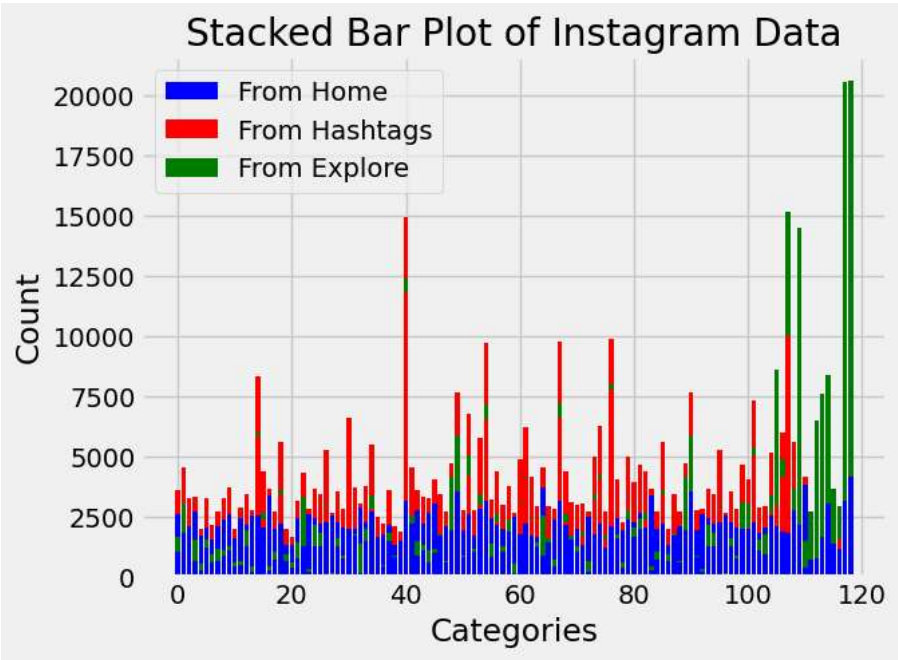
x = np.arange(len(data))

plt.bar(x, data['From Home'], color='b')
plt.bar(x, data['From Hashtags'], color='r', bottom=data['From Home'])
plt.bar(x, data['From Explore'], color='g', bottom=data['From Hashtags'])


plt.xlabel('Categories')
plt.ylabel('Count')
plt.title('Stacked Bar Plot of Instagram Data')

plt.legend(['From Home', 'From Hashtags','From Explore'])

plt.show()
```

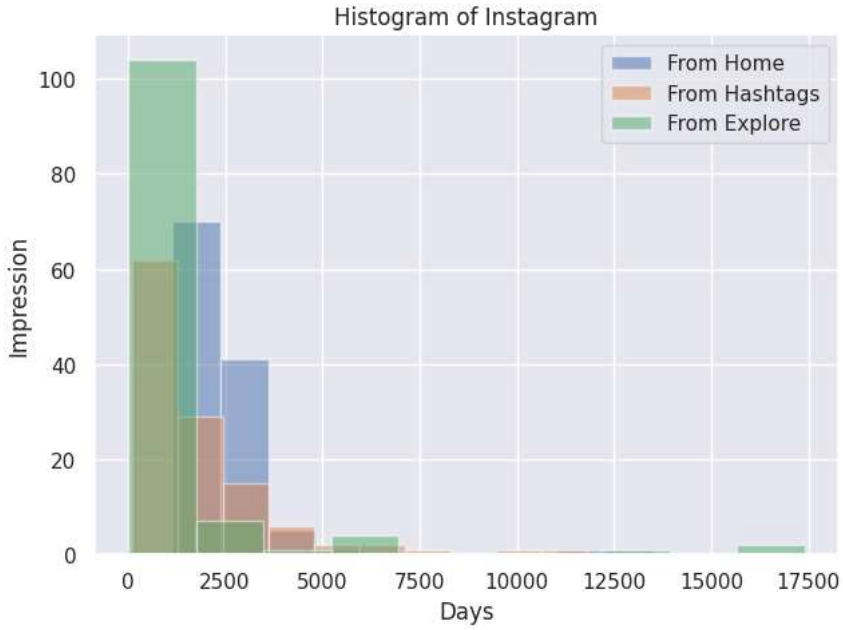


```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load data from CSV into a DataFrame
data = pd.read_csv('Instagram data.csv', encoding='latin-1')

# Plot histograms for 'From Home' and 'From Hashtags'
plt.hist(data["From Home"], alpha=0.5, label='From Home')
plt.hist(data["From Hashtags"], alpha=0.5, label='From Hashtags')
plt.hist(data["From Explore"], alpha=0.5, label='From Explore')
# Add labels and legend
plt.xlabel('Days')
plt.ylabel('Impression')
plt.title('Histogram of Instagram')
plt.legend()

# Show the plot
plt.show()
```




```
sns.set()
sns.distplot(data["From Home"])
sns.distplot(data["From Hashtags"])
sns.distplot(data["From Explore"])
plt.show()
```

```
<ipython-input-65-468dfd624a39>:2: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(data["From Home"])
<ipython-input-65-468dfd624a39>:3: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

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  sns.distplot(data["From Hashtags"])
<ipython-input-65-468dfd624a39>:4: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
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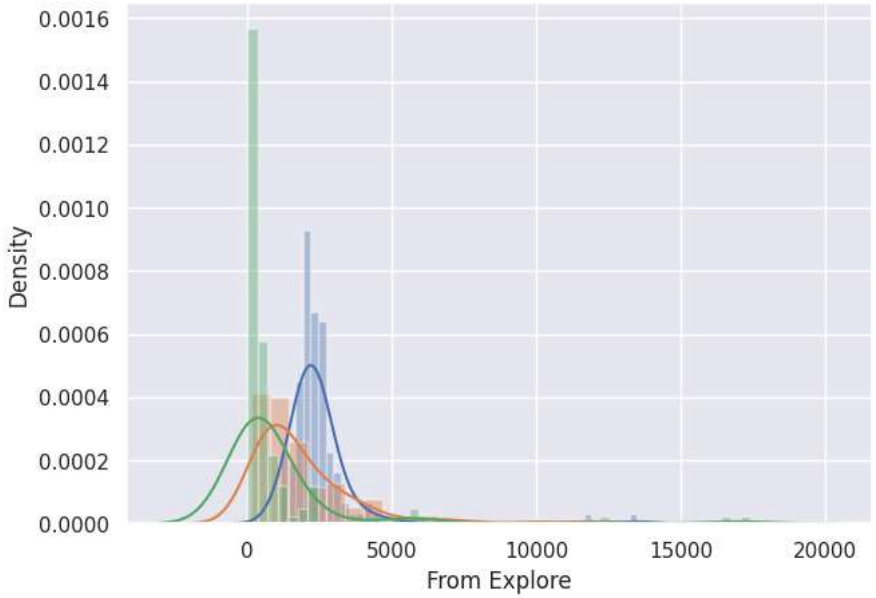
  sns.distplot(data["From Explore"])
```



```
import numpy as np
import matplotlib.pyplot as plt

x = data['From Home']
y = data['From Hashtags']
z = data['From Explore']

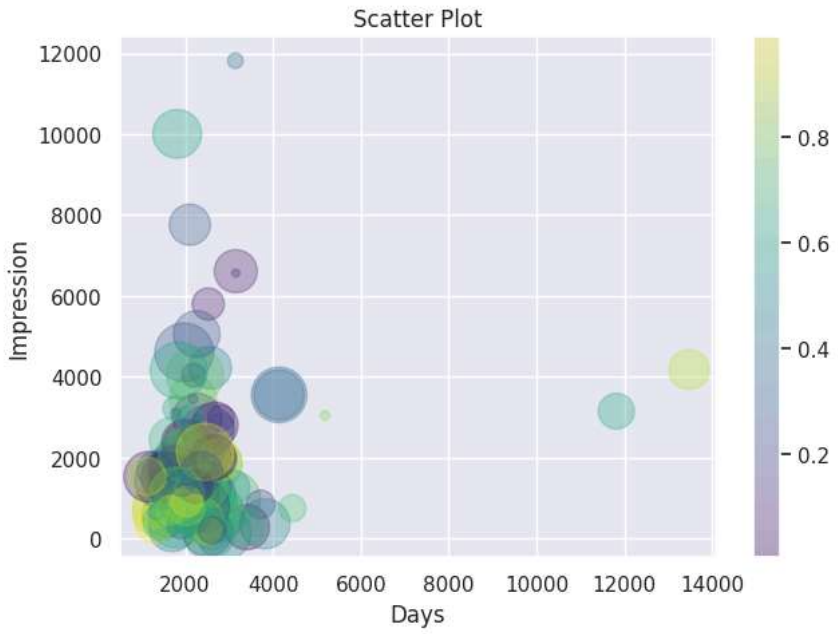
rng = np.random.RandomState(0)
colors = rng.rand(len(data))
sizes = 1000 * rng.rand(len(data))

plt.scatter(x, y, c=colors, s=sizes, alpha=0.3, cmap='viridis')

plt.colorbar()

plt.xlabel('Days')
plt.ylabel('Impression')
plt.title('Scatter Plot')

plt.show()
```




```
import pandas as pd
import matplotlib.pyplot as plt

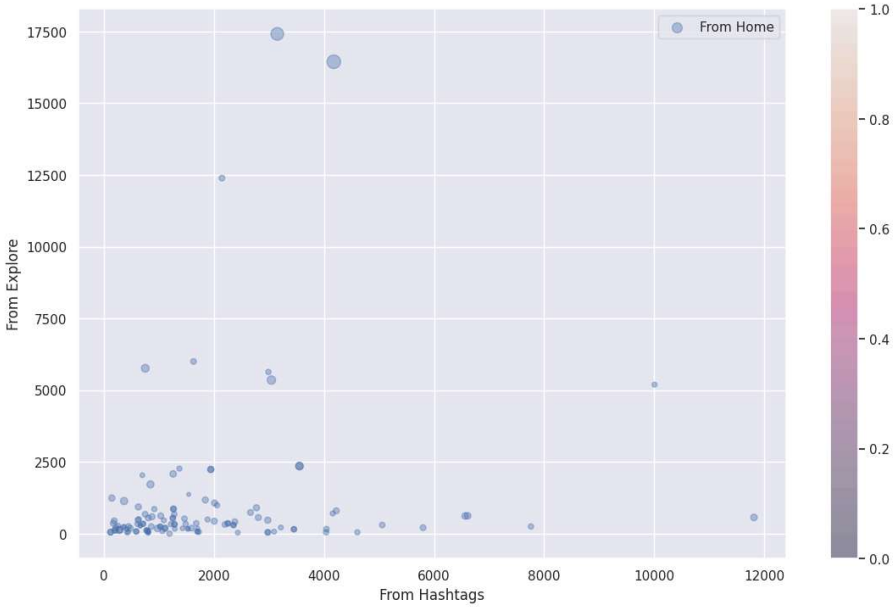
# Load data
data = pd.read_csv('Instagram data.csv', encoding='latin-1')

# Create scatter plot
data.plot(kind='scatter', x='From Hashtags', y='From Explore', alpha=0.4, s=data['From Home']/100, label='From Home',
          figsize=(12, 8), cmap=plt.get_cmap('jet'), colorbar=True)

# Add legend
plt.legend()

# Show plot
plt.show()
```

```
/usr/local/lib/python3.10/dist-packages/pandas/plotting/_matplotlib/core.py:1258: UserWa
  scatter = ax.scatter(
```

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4  #datavisualization #datascience #data #dataana...
```

```
print(data["From Home"].value_counts())
```

```
From Home
1975     3
2244     2
```

```
2415    2
2608    2
2406    2
       ..
1466    1
1308    1
```