Data Analysis

In [1]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:
```
df = pd.read_csv("C:\\Users\\visha\\Desktop\\Final Project\\INSTAGRAM\\Influencer.c
df
```

Out[2]:

	Rank	Channel Info	Influence Score	Followers	Avg. Likes	Posts	60-Day Eng Rate	New Post Avg. Likes	Total Likes	C
0	1	\ncristiano	92	485.2m	8.7m	3.4k	0.013	6.3m	29.1b	
1	2	kyliejenner	91	370.7m	8.2m	7.0k	0.014	5.0m	57.4b	
2	3	\nleomessi	90	363.9m	6.7m	915	0.010	3.5m	6.1b	
3	4	\nselenagomez	93	348.8m	6.1m	1.9k	0.005	1.7m	11.4b	
4	5	\ntherock	91	339.4m	1.8m	6.8k	0.003	932.0k	12.6b	
...	...	...	...	...	...	...	...	...	...	
195	196	\nkhabib_nurmagomedov	63	33.6m	680.6k	4.6k	0.009	305.7k	3.1b	
196	197	\ndanbilzerian	84	33.6m	2.2m	1.4k	0.064	2.1m	3.0b	
197	198	\nraisa6690	80	33.6m	227.8k	4.2k	0.003	103.2k	955.9m	Inc
198	199	\nluansantana	79	33.5m	193.3k	865	0.003	82.6k	167.2m	
199	200	\nnancyajram	81	33.4m	382.5k	3.8k	0.004	128.2k	1.5b	

200 rows × 10 columns

In [3]:
```
df['Channel Info'] = df['Channel Info'].str.replace('\n', '')
```

In [4]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 200 entries, 0 to 199
Data columns (total 10 columns):
 #   Column               Non-Null Count  Dtype  
---  ------               --------------  -----  
 0   Rank                 200 non-null    int64  
 1   Channel Info         200 non-null    object 
 2   Influence Score      200 non-null    int64  
 3   Followers            200 non-null    object 
 4   Avg. Likes           200 non-null    object 
 5   Posts                200 non-null    object 
 6   60-Day Eng Rate      200 non-null    float64
 7   New Post Avg. Likes  200 non-null    object 
 8   Total Likes          200 non-null    object 
 9   Country Or Region    137 non-null    object 
dtypes: float64(1), int64(2), object(7)
memory usage: 15.8+ KB
```

In [5]:
```
df.isnull().sum()
```

Out[5]:
```
Rank                   0
Channel Info           0
Influence Score        0
Followers              0
Avg. Likes             0
Posts                  0
60-Day Eng Rate        0
New Post Avg. Likes    0
Total Likes            0
Country Or Region     63
dtype: int64
```

Missing Data Handling

In [6]:
```
df['Country Or Region'].unique()
```

Out[6]:
```
array(['Spain', 'United States', nan, 'Canada', 'Brazil', 'Netherlands',
       'United Kingdom', 'India', 'Uruguay', 'Turkey', 'Indonesia',
       'Colombia', 'France', 'Australia', 'Italy', 'United Arab Emirates',
       'Puerto Rico', "CÃ´te d'Ivoire", 'Anguilla', 'Switzerland',
       'Sweden', 'British Virgin Islands', 'Czech Republic', 'Mexico',
       'Germany', 'Russia'], dtype=object)
```

In [7]:
```
df['Country Or Region'].value_counts()
```

Out[7]:
```
United States             65
Brazil                    13
India                     12
Indonesia                  7
France                     6
Spain                      5
United Kingdom             4
Colombia                   3
Canada                     3
Mexico                     2
Turkey                     2
Netherlands                2
Switzerland                1
Germany                    1
Czech Republic             1
British Virgin Islands     1
Sweden                     1
Australia                  1
Anguilla                   1
CÃ´te d'Ivoire             1
Puerto Rico                1
United Arab Emirates       1
Italy                      1
Uruguay                    1
Russia                     1
Name: Country Or Region, dtype: int64
```

In [8]:
```
mode_value = df['Country Or Region'].mode()[0]
mode_value
```

Out[8]:
```
'United States'
```

In [9]:
```
df['Country Or Region'] = df['Country Or Region'].fillna(mode_value)
```

In [10]:
```
df['Country Or Region'].isnull().sum()
```

Out[10]:
```
0
```

In [11]:
```
df['Country Or Region'].value_counts()
```

Out[11]:
```
United States             128
Brazil                     13
India                      12
Indonesia                   7
France                      6
Spain                       5
United Kingdom              4
Colombia                    3
Canada                      3
Mexico                      2
Turkey                      2
Netherlands                 2
Switzerland                 1
Germany                     1
Czech Republic              1
British Virgin Islands      1
Sweden                      1
Australia                   1
Anguilla                    1
CÃ´te d'Ivoire              1
Puerto Rico                 1
United Arab Emirates        1
Italy                       1
Uruguay                     1
Russia                      1
Name: Country Or Region, dtype: int64
```

In [12]:
```
df.columns
```

Out[12]:
```
Index(['Rank', 'Channel Info', 'Influence Score', 'Followers', 'Avg. Likes',
       'Posts', '60-Day Eng Rate', 'New Post Avg. Likes', 'Total Likes',
       'Country Or Region'],
      dtype='object')
```

Convert required Data Type

In [13]:
```
# Converting function

def to_numeric(value):
    multiplier = 1  # Default multiplier is 1
    if value[-1] == 'k':
        multiplier = 1000
    elif value[-1] == 'm':
        multiplier = 1000000
    elif value[-1] == 'b':
        multiplier = 1000000000

    try:
        return float(value[:-1]) * multiplier
    except ValueError:
        return None
```

In [14]:
```
df['Followers'] = df['Followers'].apply(to_numeric)

df['Avg. Likes'] = df['Avg. Likes'].apply(to_numeric)
```

In [15]:
```
df['Posts'] = df['Posts'].apply(to_numeric)

df['New Post Avg. Likes'] = df['New Post Avg. Likes'].apply(to_numeric)

df['Total Likes'] = df['Total Likes'].apply(to_numeric)
```

In [16]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 200 entries, 0 to 199
Data columns (total 10 columns):
 #   Column               Non-Null Count  Dtype  
---  ------               --------------  -----  
 0   Rank                 200 non-null    int64  
 1   Channel Info         200 non-null    object 
 2   Influence Score      200 non-null    int64  
 3   Followers            200 non-null    float64
 4   Avg. Likes           200 non-null    float64
 5   Posts                200 non-null    float64
 6   60-Day Eng Rate      200 non-null    float64
 7   New Post Avg. Likes  199 non-null    float64
 8   Total Likes          200 non-null    float64
 9   Country Or Region    200 non-null    object 
dtypes: float64(6), int64(2), object(2)
memory usage: 15.8+ KB
```

In [17]:
```
df.head()
```

Out[17]:

	Rank	Channel Info	Influence Score	Followers	Avg. Likes	Posts	60-Day Eng Rate	New Post Avg. Likes	Total Likes
0	1	cristiano	92	485200000.0	8700000.0	3400.0	0.013	6300000.0	2.910000e+10
1	2	kyliejenner	91	370700000.0	8200000.0	7000.0	0.014	5000000.0	5.740000e+10
2	3	leomessi	90	363900000.0	6700000.0	91.0	0.010	3500000.0	6.100000e+09
3	4	selenagomez	93	348800000.0	6100000.0	1900.0	0.005	1700000.0	1.140000e+10
4	5	therock	91	339400000.0	1800000.0	6800.0	0.003	932000.0	1.260000e+10

Summary Statistics

In [18]:
```
df.describe()
```

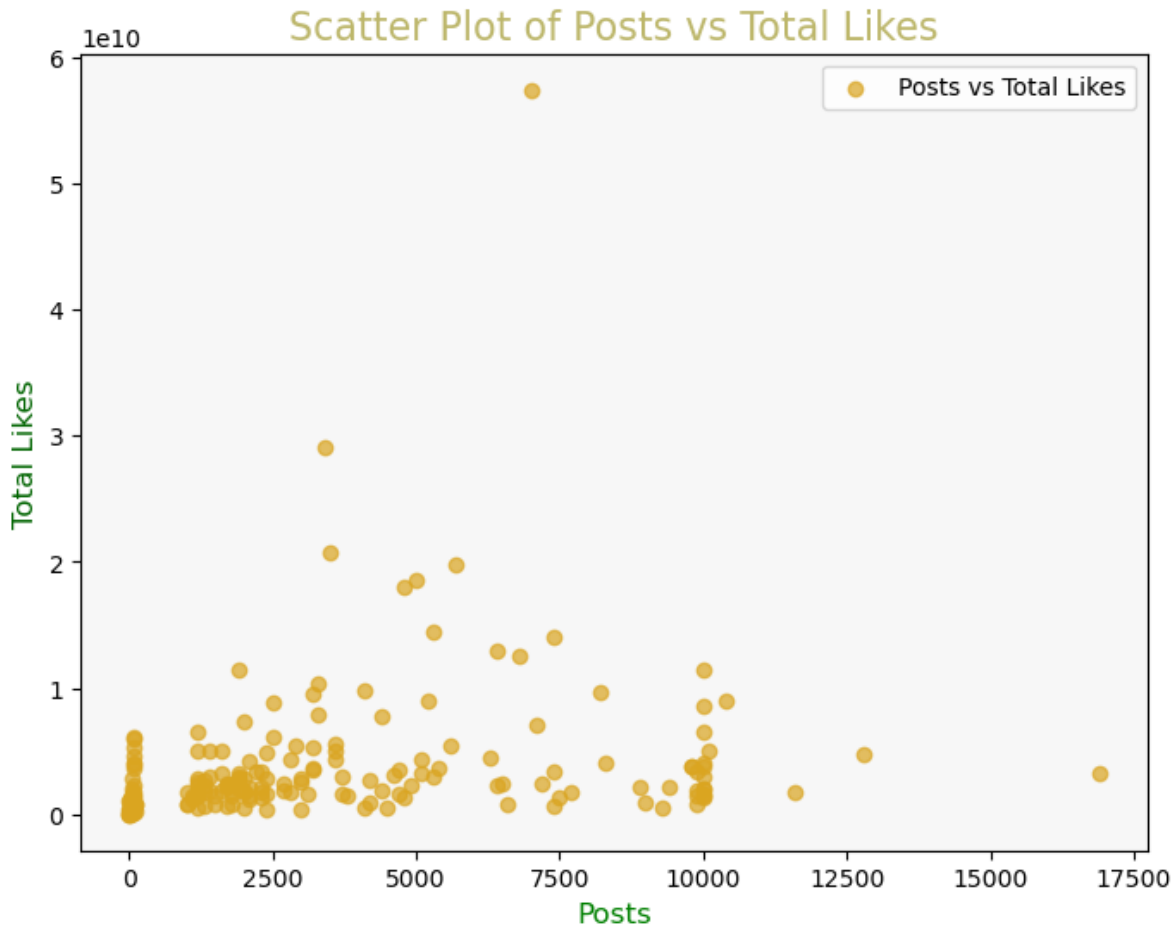
Out[18]:

	Rank	Influence Score	Followers	Avg. Likes	Posts	60-Day Eng Rate	New Pos Avg. Like
count	200.000000	200.000000	2.000000e+02	2.000000e+02	200.000000	200.000000	1.990000e+0
mean	100.500000	81.850000	7.849100e+07	1.785050e+06	3330.760000	0.019160	1.230234e+0
std	57.879185	8.875323	7.492015e+07	2.192133e+06	3443.485081	0.032577	1.860266e+0
min	1.000000	22.000000	3.340000e+07	6.350000e+04	2.000000	0.000000	1.750000e+0
25%	50.750000	80.000000	4.067500e+07	4.990500e+05	93.250000	0.004000	2.286000e+0
50%	100.500000	84.000000	5.095000e+07	1.100000e+06	2100.000000	0.009500	5.784000e+0
75%	150.250000	86.000000	7.050000e+07	2.125000e+06	5025.000000	0.017250	1.300000e+0
max	200.000000	93.000000	4.852000e+08	1.540000e+07	16900.000000	0.250000	1.290000e+0

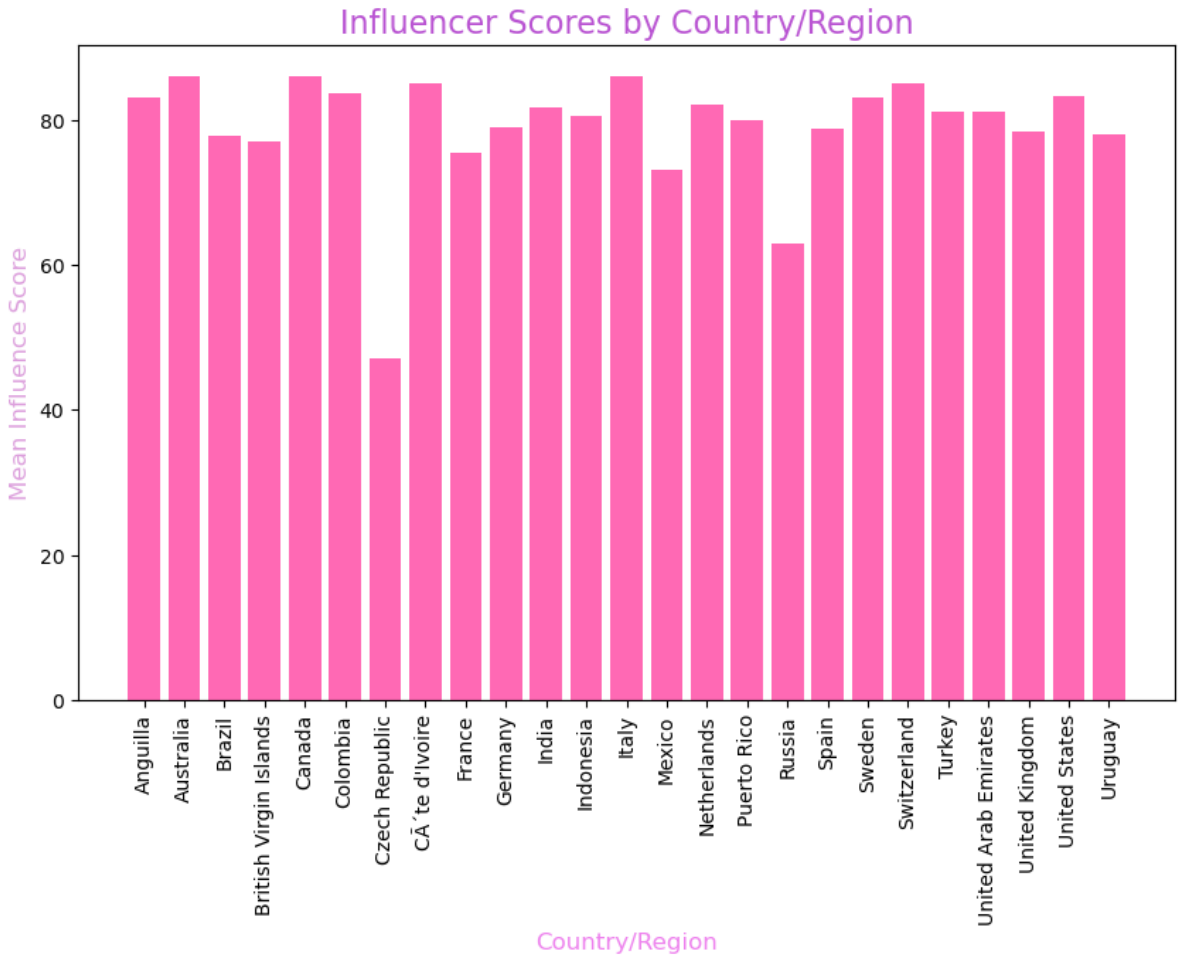
Data Visualization

In [19]:

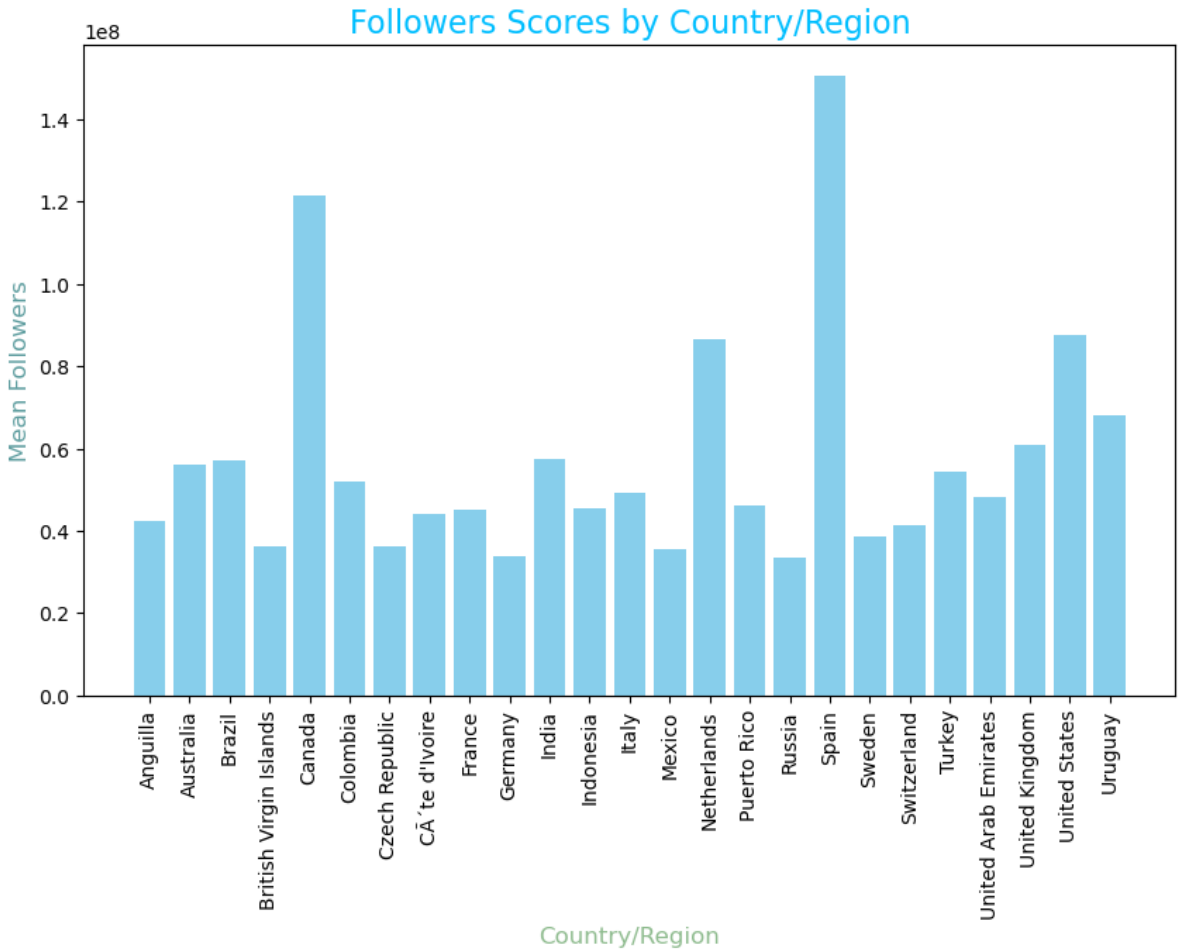
```
fig, ax = plt.subplots(figsize=(8, 6))
scatter = ax.scatter(df['Posts'], df['Total Likes'], alpha=0.7, c='goldenrod', mark

ax.set_facecolor((0.9, 0.9, 0.9, 0.3))


ax.set_title('Scatter Plot of Posts vs Total Likes', color='darkkhaki', fontsize=16
ax.set_xlabel('Posts', color='green', fontsize=12)
ax.set_ylabel('Total Likes', color='darkgreen', fontsize=12)
ax.legend()

# plt.grid(True)
plt.show()
```



In [20]:
```
country_scores = df.groupby('Country Or Region')['Influence Score'].mean().reset_ir


plt.figure(figsize=(10, 6))

plt.bar(country_scores['Country Or Region'], country_scores['Influence Score'], col

plt.title('Influencer Scores by Country/Region', color='mediumorchid', fontsize=16)

plt.xlabel('Country/Region', color='violet', fontsize=12)
plt.ylabel('Mean Influence Score', color='plum', fontsize=12)


plt.xticks(rotation=90)
plt.show()
```

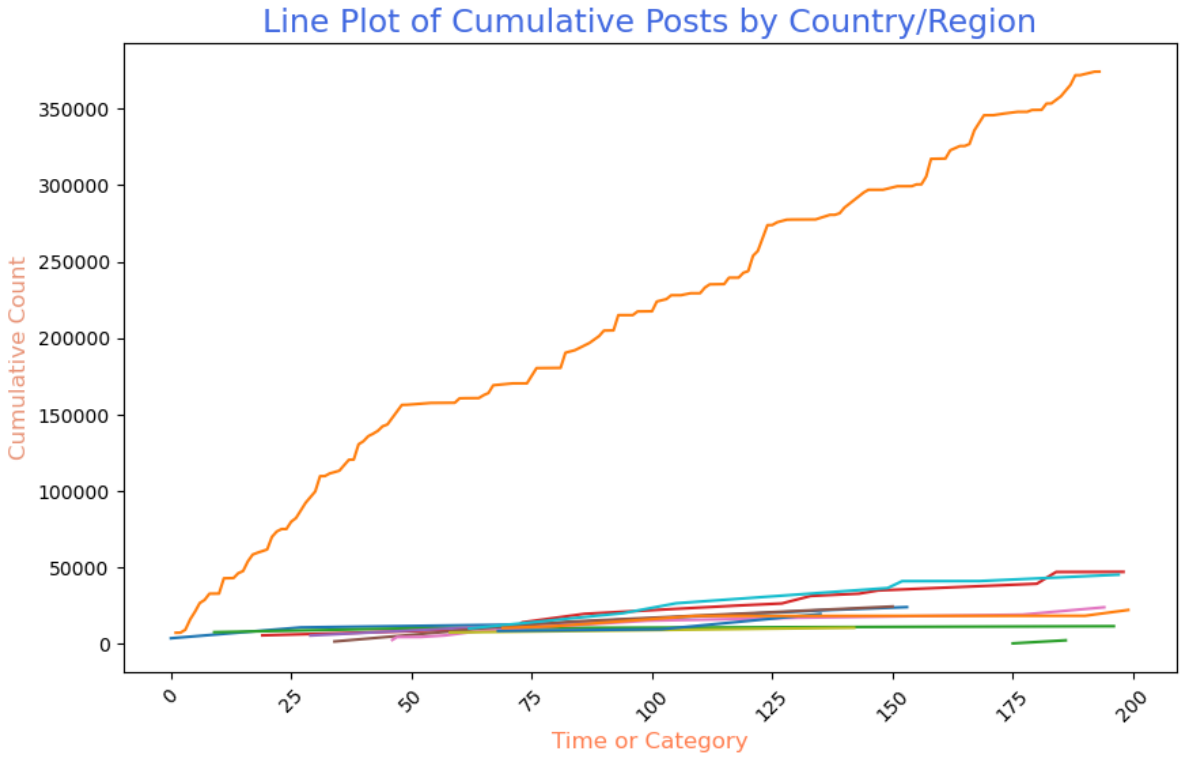


In [21]:
```
country_scores = df.groupby('Country Or Region')['Followers'].mean().reset_index()


plt.figure(figsize=(10, 6))

plt.bar(country_scores['Country Or Region'], country_scores['Followers'], color='sk

plt.title('Followers Scores by Country/Region', color='deepskyblue', fontsize=16)

plt.xlabel('Country/Region', color='darkseagreen', fontsize=12)
plt.ylabel('Mean Followers', color='cadetblue', fontsize=12)


plt.xticks(rotation=90)
plt.show()
```



In [22]:

```
country_data = df.groupby('Country Or Region')[['Posts', 'Total Likes']].cumsum()
country_data['Country Or Region'] = df['Country Or Region']

plt.figure(figsize=(10, 6))


for country in country_data['Country Or Region'].unique():
    data_subset = country_data[country_data['Country Or Region'] == country]
    plt.plot(data_subset.index, data_subset['Posts'], label=f'{country} - Posts')

plt.title('Line Plot of Cumulative Posts by Country/Region', color='royalblue', for
plt.xlabel('Time or Category', color='coral', fontsize=12)
plt.ylabel('Cumulative Count', color='darksalmon', fontsize=12)
# plt.legend(loc='upper right', bbox_to_anchor=(0.8, 1.0), borderaxespad=0)

# Show the plot
plt.xticks(rotation=45)
plt.show()
```



QA Part

1) Are there any correlated features in the given dataset?

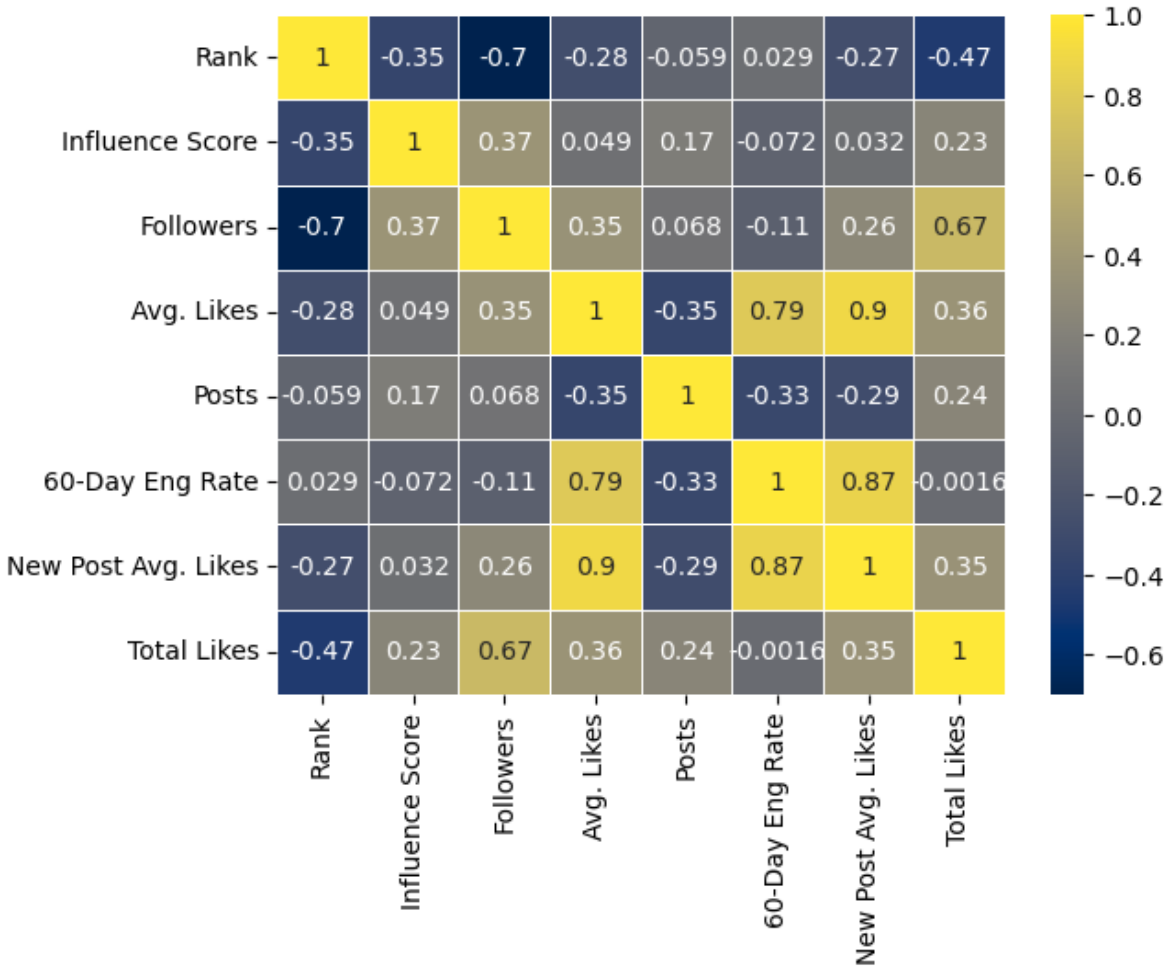
In [23]:
```
correlation = df.corr(numeric_only=True)
correlation
```

Out[23]:

	Rank	Influence Score	Followers	Avg. Likes	Posts	60-Day Eng Rate	New Post Avg. Likes	Total Likes
Rank	1.000000	-0.354843	-0.698193	-0.277699	-0.059337	0.028900	-0.270020	-0.465119
Influence Score	-0.354843	1.000000	0.365428	0.048502	0.170405	-0.072460	0.031685	0.234987
Followers	-0.698193	0.365428	1.000000	0.346829	0.068185	-0.107439	0.259494	0.667546
Avg. Likes	-0.277699	0.048502	0.346829	1.000000	-0.350093	0.789359	0.899820	0.361296
Posts	-0.059337	0.170405	0.068185	-0.350093	1.000000	-0.334560	-0.292471	0.237158
60-Day Eng Rate	0.028900	-0.072460	-0.107439	0.789359	-0.334560	1.000000	0.866097	-0.001560
New Post Avg. Likes	-0.270020	0.031685	0.259494	0.899820	-0.292471	0.866097	1.000000	0.350097
Total Likes	-0.465119	0.234987	0.667546	0.361296	0.237158	-0.001560	0.350097	1.000000

In [24]:
```
sns.heatmap(correlation, annot=True, cmap='cividis', linewidths=0.6)
```

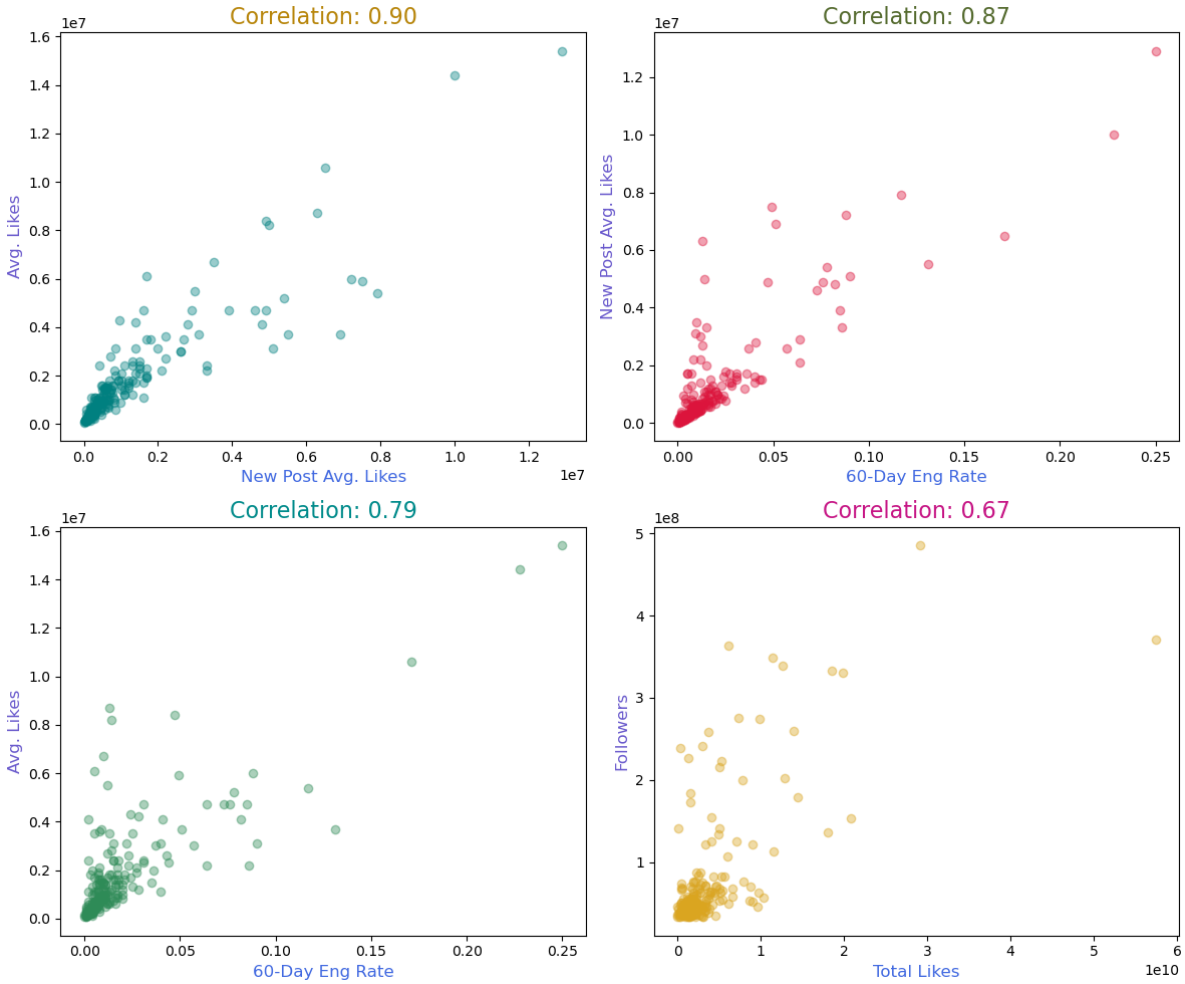
Out[24]:
```
<Axes: >
```



In [25]:
```
highly_correlated = [
    ('New Post Avg. Likes', 'Avg. Likes', 0.9),
    ('60-Day Eng Rate', 'New Post Avg. Likes', 0.87),
    ('60-Day Eng Rate', 'Avg. Likes', 0.79),
    ('Total Likes', 'Followers', 0.67)
]
```

In [26]:
```
fig, axes = plt.subplots(nrows=2, ncols=2, figsize=(12, 10))

colors = ['teal', 'crimson', 'seagreen', 'goldenrod']
title = ['darkgoldenrod', 'darkolivegreen', 'darkcyan', 'mediumvioletred']

for i, (x_col, y_col, corr) in enumerate(highly_correlated):
    row = i // 2
    col = i % 2
    ax = axes[row, col]

    # Scatter plot
    ax.scatter(df[x_col], df[y_col], color=colors[i], marker='o', alpha=0.4)

    # Set title with correlation coefficient
    ax.set_title(f'Correlation: {corr:.2f}', color=title[i], fontsize=16)

    # Label axes
    ax.set_xlabel(x_col, color='royalblue', fontsize=12)
    ax.set_ylabel(y_col, color='slateblue', fontsize=12)

# Adjust layout
```

```
plt.tight_layout()

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



2) What is the frequency distribution of the following features?

- Influence Score
- Followers
- Posts

Frequency Distribution for Influence Score

In [27]:
```
influence_score_distribution = df['Influence Score'].value_counts().reset_index().r

influence_score_distribution
```

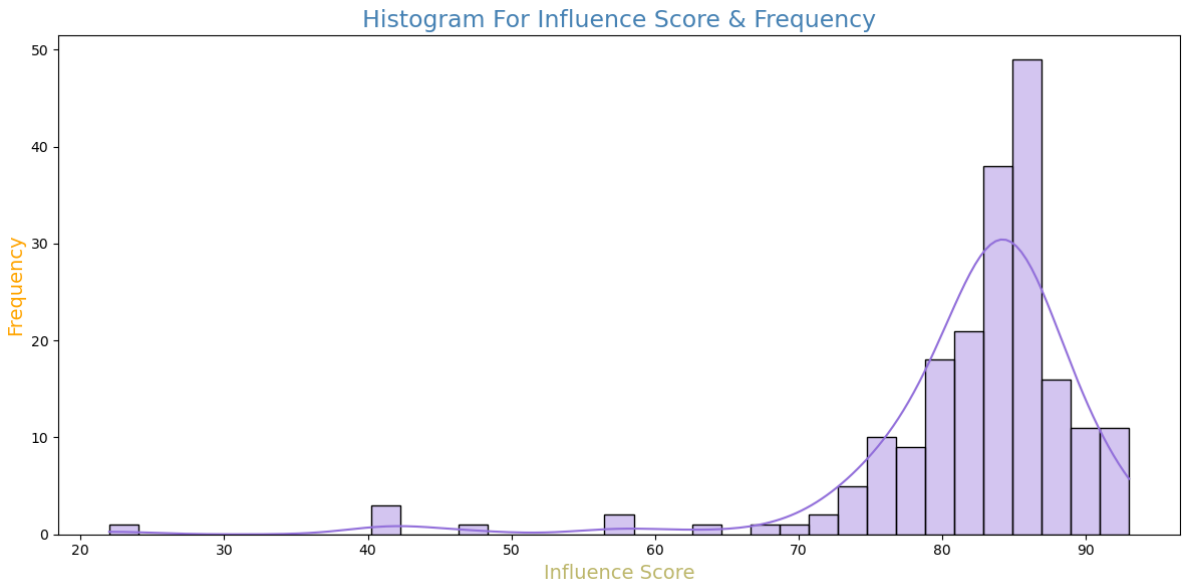
Out[27]:

	Influence Score	Frequency
0	85	30
1	83	20
2	86	19
3	84	18
4	82	12
5	80	12
6	87	9
7	81	9
8	90	7
9	88	7
10	76	6
11	79	6
12	91	6
13	78	5
14	77	4
15	92	4
16	75	4
17	89	4
18	74	3
19	73	2
20	42	2
21	70	1
22	93	1
23	22	1
24	57	1
25	58	1
26	47	1
27	72	1
28	68	1
29	41	1
30	71	1
31	63	1

In [28]:

```
plt.figure(figsize=(12, 6))
# plt.subplot(131)
sns.histplot(data=df, x='Influence Score', color='mediumpurple', kde=True, common_r

plt.title('Histogram For Influence Score & Frequency', color='steelblue', fontsize=
```

```
plt.xlabel('Influence Score', color='darkkhaki', fontsize=14)
plt.ylabel('Frequency', color='orange', fontsize=14)

plt.tight_layout()
plt.show()
```



Frequency Distribution for Followers

In [29]:
```
followers_distribution = df['Followers'].value_counts().reset_index().rename(columr
followers_distribution
```

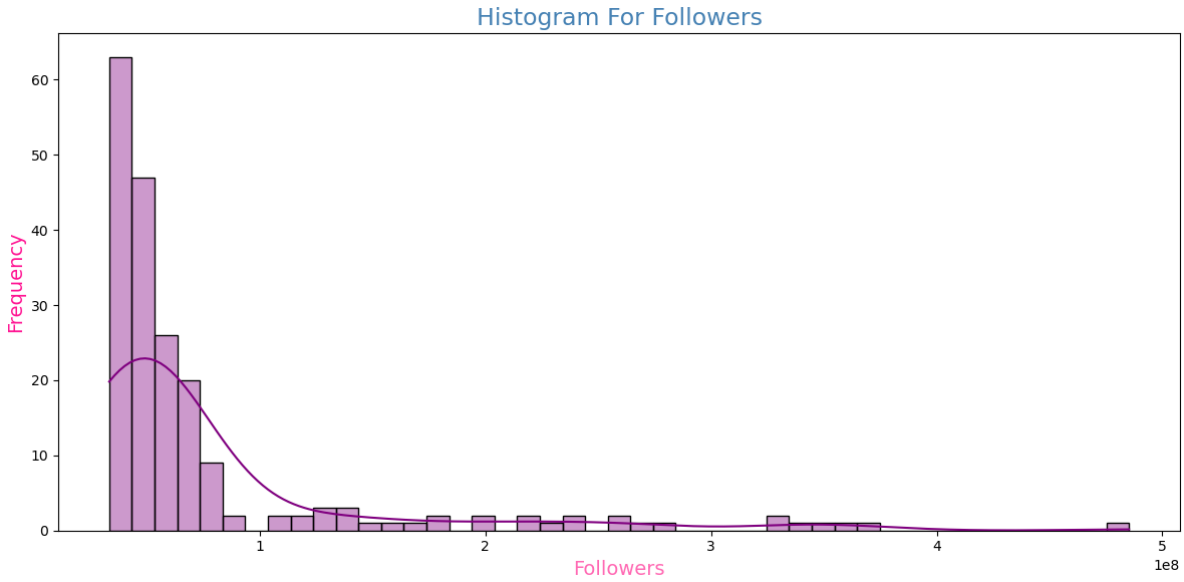
Out[29]:

	Followers	Frequency
0	36000000.0	3
1	33600000.0	3
2	68100000.0	3
3	33800000.0	3
4	52900000.0	3
...	...	...
167	64700000.0	1
168	64400000.0	1
169	63600000.0	1
170	63400000.0	1
171	33400000.0	1

172 rows × 2 columns

In [30]:
```
plt.figure(figsize=(12, 6))
# plt.subplot(131)
sns.histplot(data=df, x='Followers', color='purple', kde=True, common_norm=False, a

plt.title('Histogram For Followers', color='steelblue', fontsize=17)
plt.xlabel('Followers', color='hotpink', fontsize=14)
plt.ylabel('Frequency', color='deeppink', fontsize=14)
```

```
plt.tight_layout()
plt.show()
```



Frequency Distribution for Posts

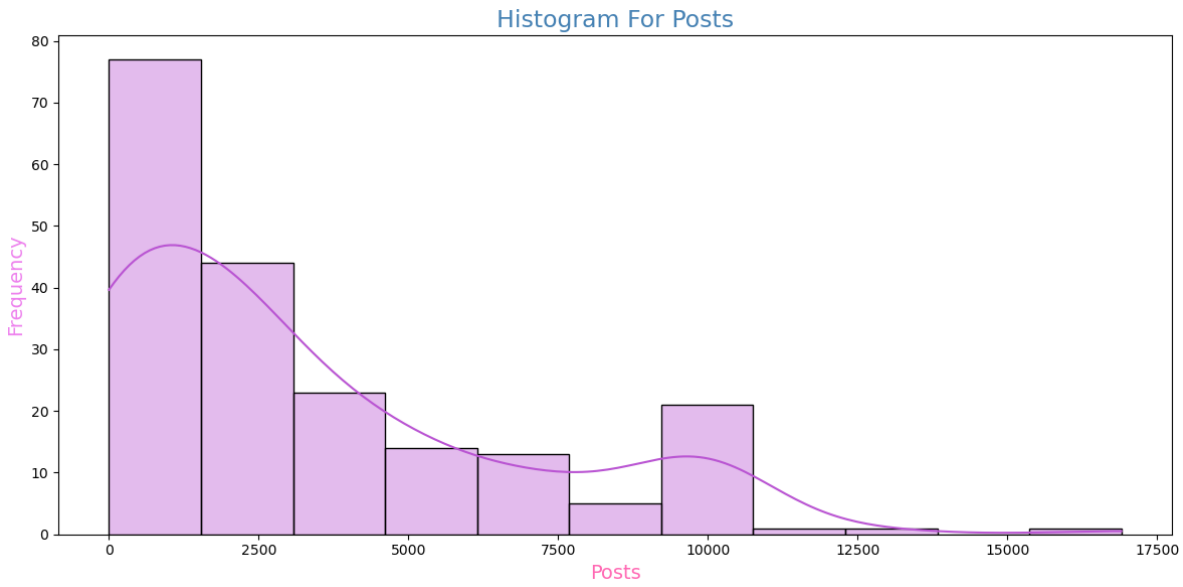
In [31]:
```
posts_distribution = df['Posts'].value_counts().reset_index().rename(columns={'inde
posts_distribution
```

Out[31]:

	Posts	Frequency
0	10000.0	11
1	1200.0	9
2	2000.0	5
3	1900.0	5
4	2300.0	4
...	...	...
106	5600.0	1
107	66.0	1
108	7000.0	1
109	10100.0	1
110	3800.0	1

111 rows × 2 columns

In [32]:
```
plt.figure(figsize=(12, 6))
# plt.subplot(131)
sns.histplot(data=df, x='Posts', color='mediumorchid', kde=True, common_norm=False,

plt.title('Histogram For Posts', color='steelblue', fontsize=17)
plt.xlabel('Posts', color='hotpink', fontsize=14)
plt.ylabel('Frequency', color='violet', fontsize=14)

plt.tight_layout()
plt.show()
```



Left-Skewed Distribution for Influencers:

> This could imply that most influencers in this dataset have higher influence scores, while there are a few with lower scores.
>
> The long tail on the left side represents outliers or influencers with exceptionally low influence scores.

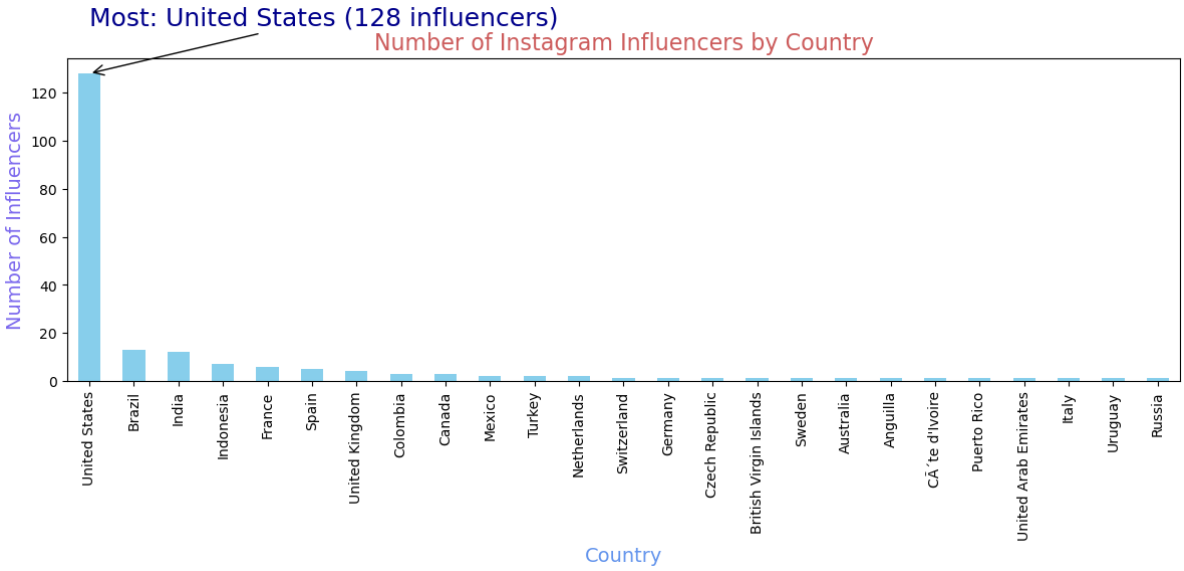
Right-Skewed Distribution for Posts and Followers:

> For "Posts," this could indicate that most influencers post infrequently, but there are a few who are extremely prolific.
>
> For "Followers," it suggests that many influencers have a moderate number of followers, but there are notable exceptions with a massive following.

3) Which country houses the highest number of Instagram Influencers?

In [33]:
```
country_counts = df['Country Or Region'].value_counts()

# Identify the country with the highest count
top_country = country_counts.idxmax()
max_influencers = country_counts.max()

# Create a bar chart
plt.figure(figsize=(12, 6))
country_counts.plot(kind='bar', color='skyblue')
plt.title('Number of Instagram Influencers by Country', color='indianred', fontsize
plt.xlabel('Country', color='cornflowerblue', fontsize=14)
plt.ylabel('Number of Influencers', color='mediumslateblue', fontsize=14)

# Annotate the country with the highest count
plt.annotate(f'Most: {top_country} ({max_influencers} influencers)',
             xy=(0, max_influencers),
             xytext=(0, max_influencers + 20),
```

```
            fontsize=18,
            color='darkblue',
            arrowprops=dict(arrowstyle='->', lw=1))

plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
```



4) Who are the top 10 influencers in the given dataset based on the following features

- Followers
- Average likes
- Total Likes

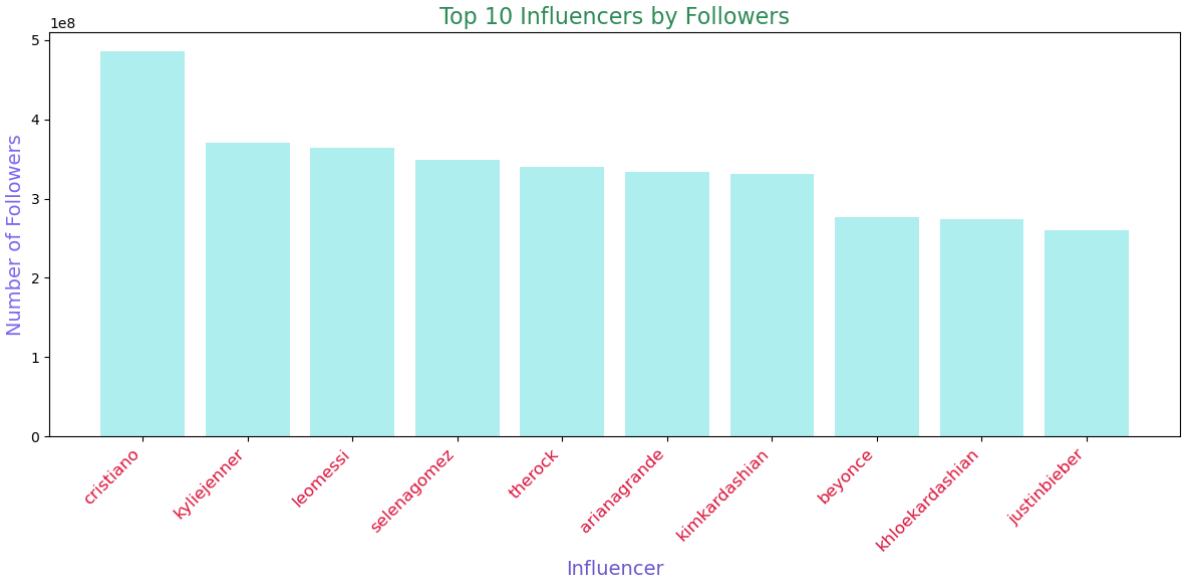
Top 10 'Influencers' based on 'Followers'

In [34]:
```
top_followers = df.sort_values(by='Followers', ascending=False).head(10)
top_followers[['Channel Info', 'Followers']]
```

Out[34]:

	Channel Info	Followers
0	cristiano	485200000.0
1	kyliejenner	370700000.0
2	leomessi	363900000.0
3	selenagomez	348800000.0
4	therock	339400000.0
5	arianagrande	333000000.0
6	kimkardashian	330700000.0
7	beyonce	276100000.0
8	khloekardashian	273900000.0
9	justinbieber	260000000.0

In [35]:
```
plt.figure(figsize=(12, 6))

plt.bar(top_followers['Channel Info'], top_followers['Followers'], color='paleturqu

plt.title('Top 10 Influencers by Followers', fontsize=16, color='seagreen')

plt.xlabel('Influencer', fontsize=14, color='slateblue')
plt.ylabel('Number of Followers', fontsize=14, color='mediumslateblue')

plt.xticks(rotation=45, ha='right', color='crimson', fontsize=12)

plt.tight_layout()
plt.show()
```



Top 10 'Influencers' based on 'Avg. Likes'

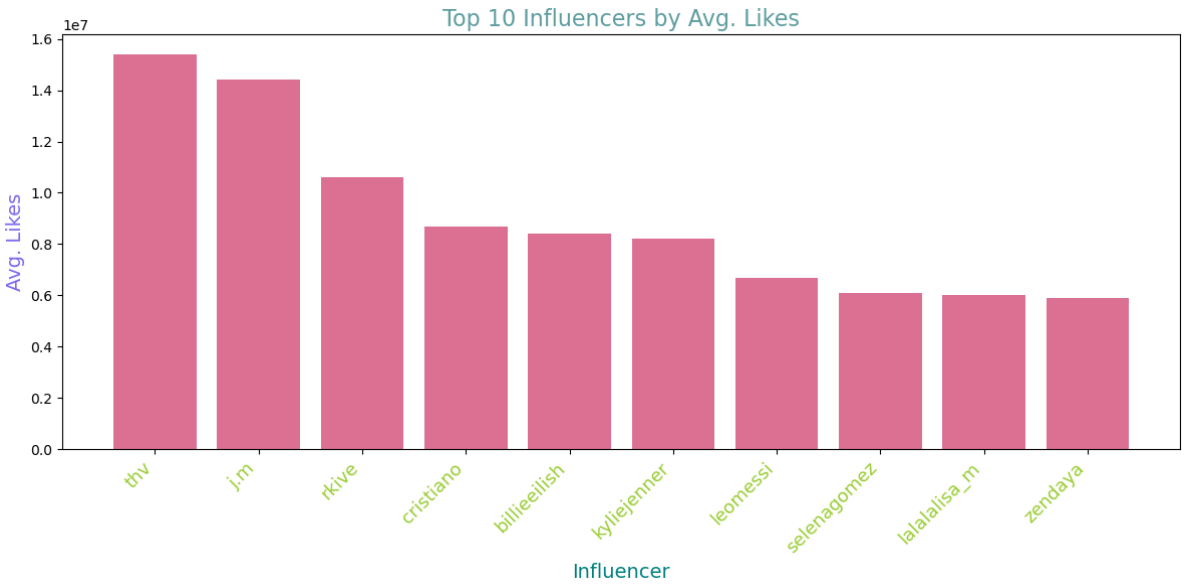
In [36]:
```
top_avg_likes = df.sort_values(by='Avg. Likes', ascending=False).head(10)
top_avg_likes[['Channel Info', 'Avg. Likes']]
```

Out[36]:

	Channel Info	Avg. Likes
96	thv	15400000.0
131	j.m	14400000.0
165	rkive	10600000.0
0	cristiano	8700000.0
32	billieeilish	8400000.0
1	kyliejenner	8200000.0
2	leomessi	6700000.0
3	selenagomez	6100000.0
38	lalalalisa_m	6000000.0
22	zendaya	5900000.0

In [37]:
```
plt.figure(figsize=(12, 6))

plt.bar(top_avg_likes['Channel Info'], top_avg_likes['Avg. Likes'], color='paleviol
```

```
plt.title('Top 10 Influencers by Avg. Likes', fontsize=16, color='cadetblue')

plt.xlabel('Influencer', fontsize=14, color='teal')
plt.ylabel('Avg. Likes', fontsize=14, color='mediumslateblue')

plt.xticks(rotation=45, ha='right', color='yellowgreen', fontsize=13)

plt.tight_layout()
plt.show()
```



Top 10 'Influencers' based on 'Total Likes'

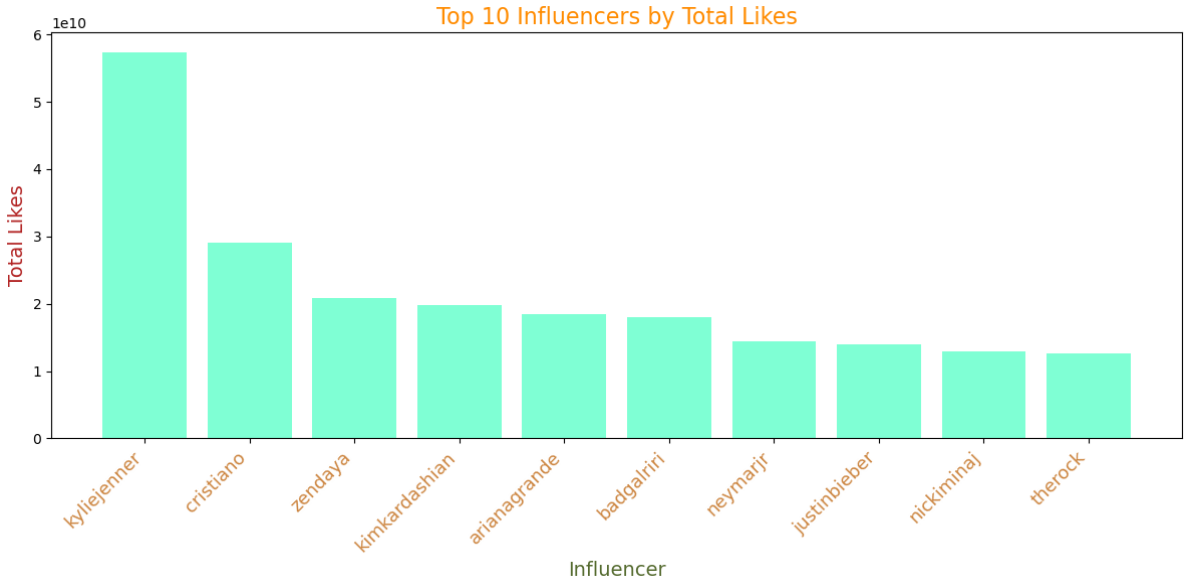
In [38]:
```
top_total_likes = df.sort_values(by='Total Likes', ascending=False).head(10)
top_total_likes[['Channel Info', 'Total Likes']]
```

Out[38]:

	Channel Info	Total Likes
1	kyliejenner	5.740000e+10
0	cristiano	2.910000e+10
22	zendaya	2.080000e+10
6	kimkardashian	1.980000e+10
5	arianagrande	1.850000e+10
25	badgalriri	1.800000e+10
19	neymarjr	1.440000e+10
9	justinbieber	1.400000e+10
16	nickiminaj	1.290000e+10
4	therock	1.260000e+10

In [39]:
```
plt.figure(figsize=(12, 6))

plt.bar(top_total_likes['Channel Info'], top_total_likes['Total Likes'], color='aqu

plt.title('Top 10 Influencers by Total Likes', fontsize=16, color='darkorange')

plt.xlabel('Influencer', fontsize=14, color='darkolivegreen')
plt.ylabel('Total Likes', fontsize=14, color='firebrick')
```

```
plt.xticks(rotation=45, ha='right', color='peru', fontsize=13)

plt.tight_layout()
plt.show()
```



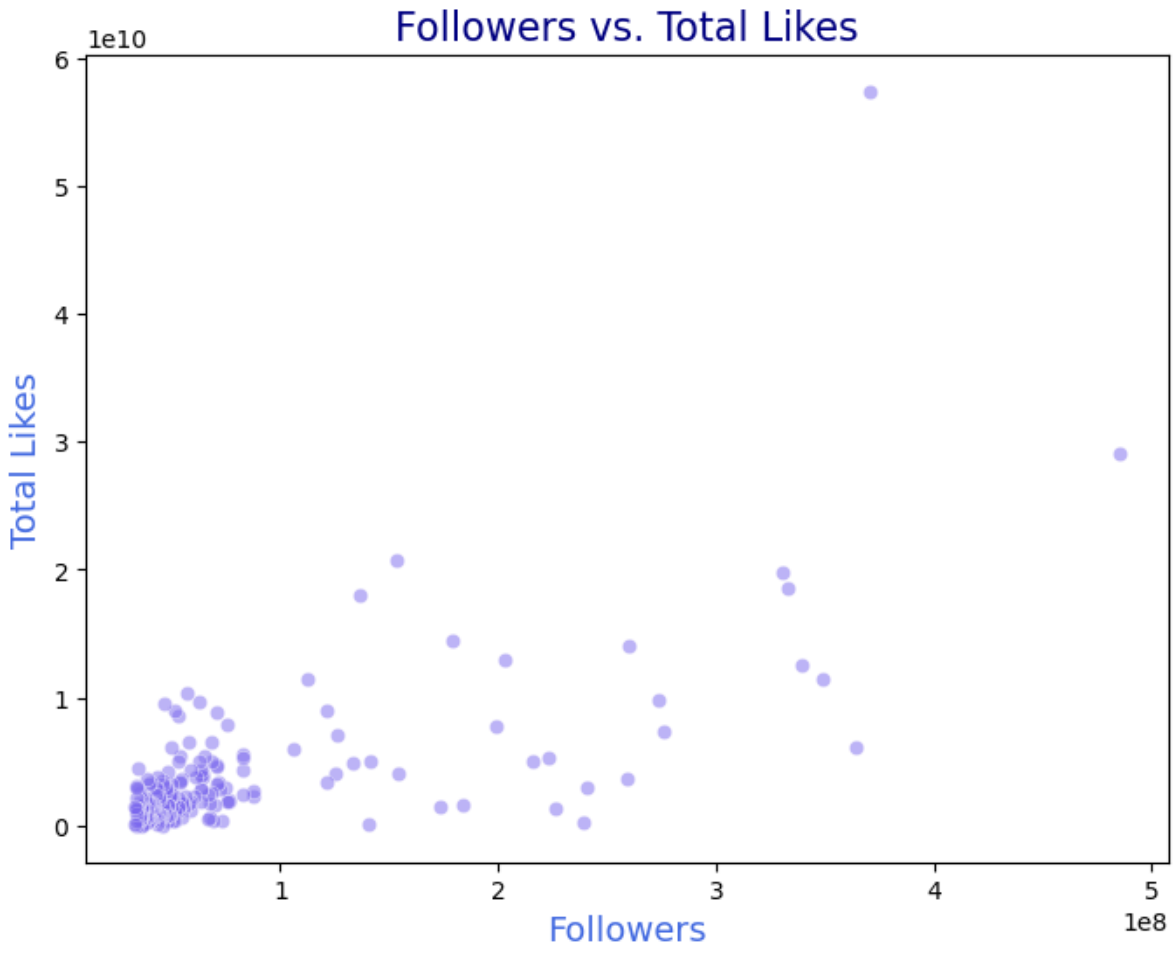
5) Describe the relationship between the following pairs of features using a suitable graph

- Followers and Total Likes
- Followers and Influence Score
- Posts and Average likes
- Posts and Influence Score

Relationship between Followers and Total Likes

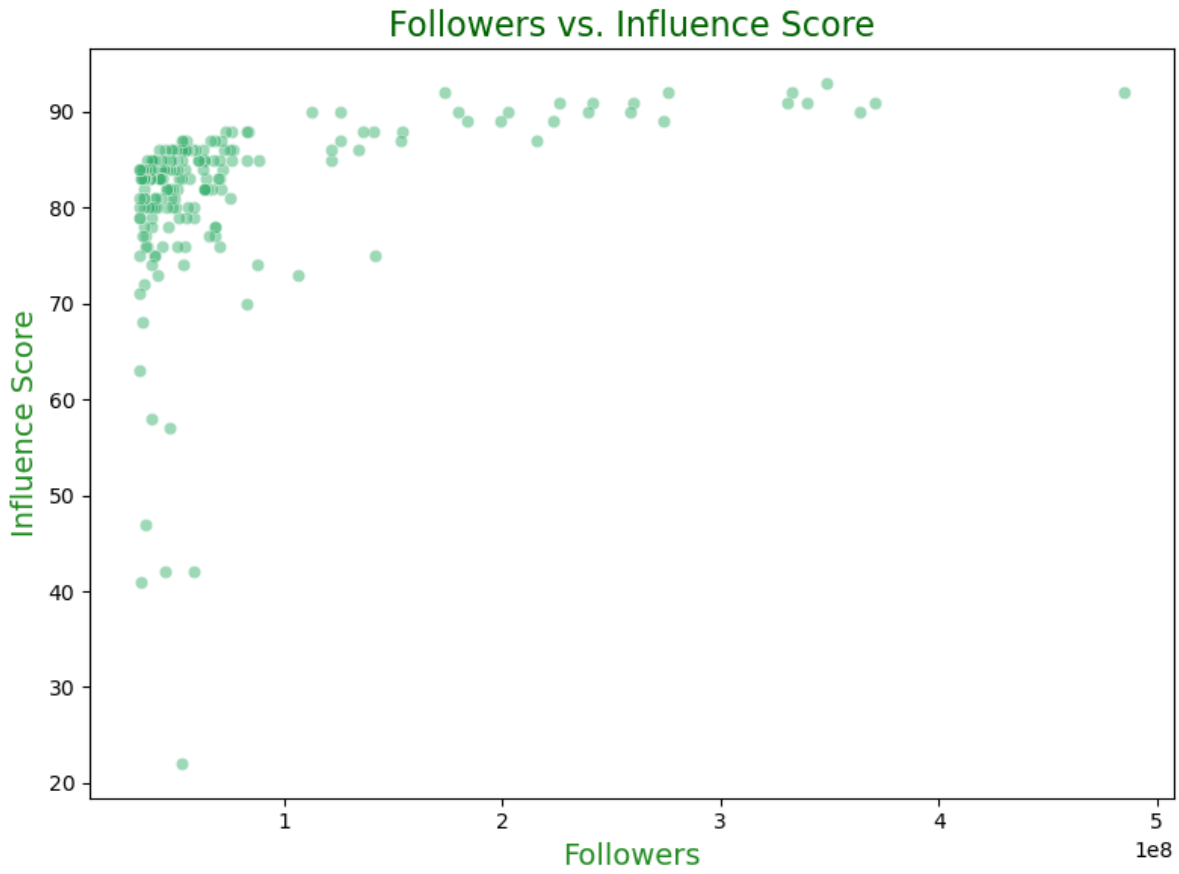
In [40]:
```
plt.figure(figsize=(8, 6))
sns.scatterplot(data=df, x='Followers', y='Total Likes', color='mediumslateblue', a
plt.title('Followers vs. Total Likes', fontsize=16, color='navy')
plt.xlabel('Followers', fontsize=14, color='royalblue')
plt.ylabel('Total Likes', fontsize=14, color='royalblue')
# plt.grid(True)
```

Out[40]:
```
Text(0, 0.5, 'Total Likes')
```



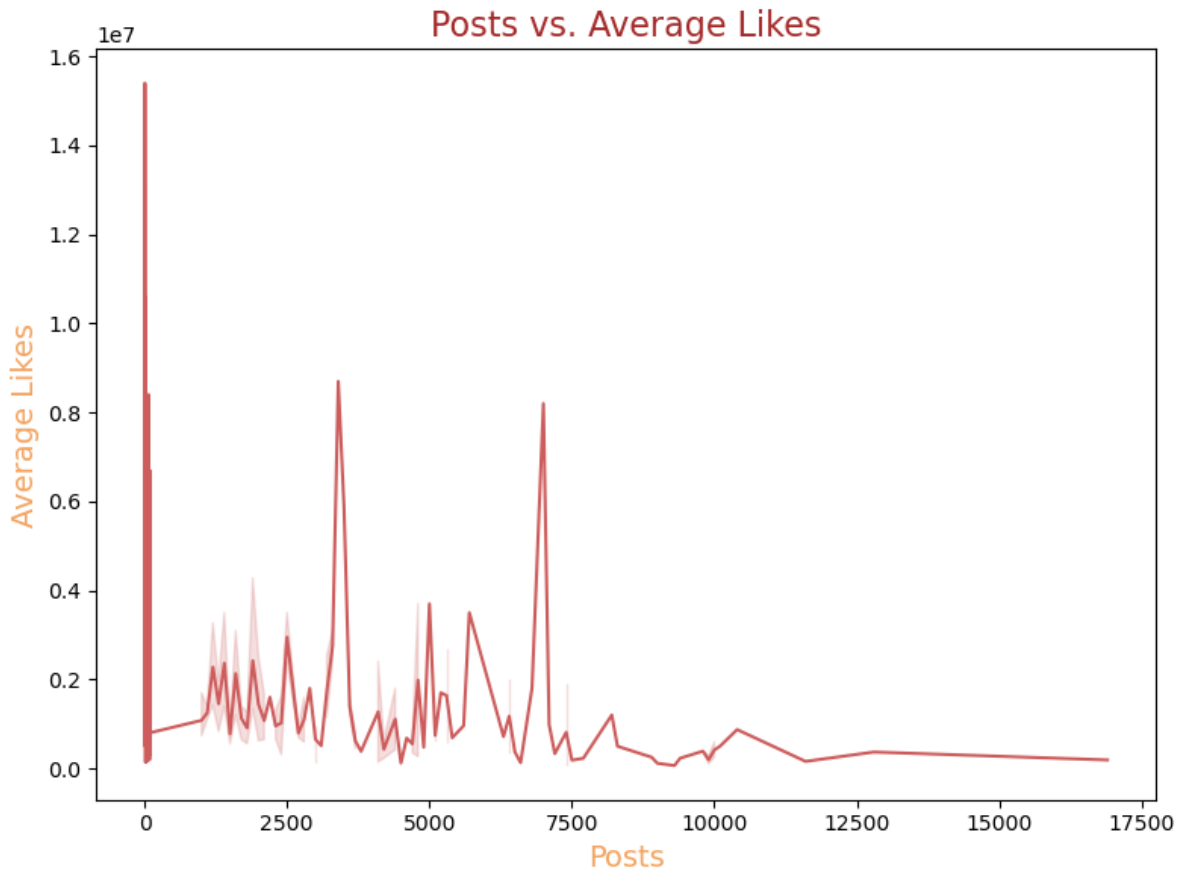
Relationship between Followers and Influence Score

In [41]:
```
plt.figure(figsize=(8, 6))
sns.scatterplot(data=df, x='Followers', y='Influence Score', color='mediumseagreen'
plt.title('Followers vs. Influence Score', fontsize=16, color='darkgreen')
plt.xlabel('Followers', fontsize=14, color='forestgreen')
plt.ylabel('Influence Score', fontsize=14, color='forestgreen')

plt.tight_layout()
plt.show()
```



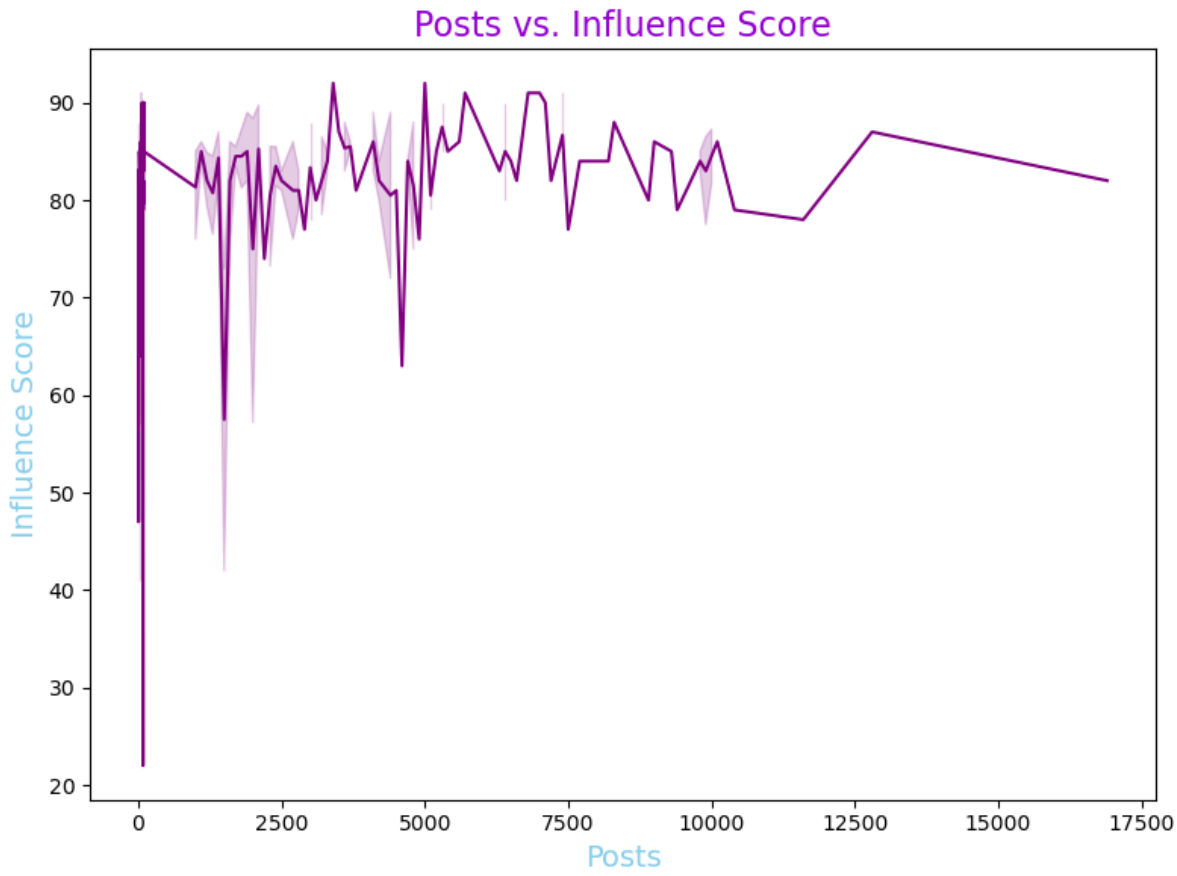
Relationship between Posts and Average Likes

In [42]:
```
plt.figure(figsize=(8, 6))
sns.lineplot(data=df, x='Posts', y='Avg. Likes', color='indianred')
plt.title('Posts vs. Average Likes', fontsize=16, color='brown')
plt.xlabel('Posts', fontsize=14, color='sandybrown')
plt.ylabel('Average Likes', fontsize=14, color='sandybrown')
plt.tight_layout()

plt.show()
```



Relationship between Posts and Influence Score

In [43]:
```
plt.figure(figsize=(8, 6))

sns.lineplot(data=df, x='Posts', y='Influence Score', color='purple')

plt.title('Posts vs. Influence Score', fontsize=16, color='darkviolet')
plt.xlabel('Posts', fontsize=14, color='skyblue')
plt.ylabel('Influence Score', fontsize=14, color='skyblue')

plt.tight_layout()
plt.show()
```



Conclusion

1. **Correlation Analysis:** I conducted correlation analysis to identify any correlated features in the dataset. Notable correlations included a strong positive correlation between "Total Likes" and "Followers," as well as a moderate negative correlation between "Influence Score" and "Followers."

2. **Frequency Distributions:** I examined the frequency distributions of three essential features: "Influence Score," "Followers," and "Posts." The analysis revealed varying distributions for each feature, with "Followers" and "Posts" showing right-skewed distributions, indicating a majority of influencers with lower values and a few outliers with high counts.

3. **Geographic Distribution:** I determined which country housed the highest number of Instagram influencers and created a bar chart to visualize the counts of influencers in different countries. This analysis helps in understanding the global distribution of influencers in the dataset.

4. **Top Influencers:** I identified the top 10 influencers based on "Followers," "Average Likes," and "Total Likes." Creating bar charts for each feature allowed us to showcase the most influential and popular influencers in the dataset.

5. **Relationship Analysis:** I explored the relationships between feature pairs using suitable graphs. Scatter plots were used to examine the relationships between "Followers" and "Total Likes" as well as "Followers" and "Influence Score." Line plots were employed to analyze the relationships between "Posts" and "Average Likes" and "Posts" and

"Influence Score." These visualizations unveiled patterns and correlations between these features.